THE LANCET.

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Abstracts of Two Lectures ON VENTRAL HERNIA.

Delivered at the Medical Graduates' College and Polyclinic,

BY WILLIAM HENRY BATTLE, F.R.C.S. ENG.,

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LECTURE II.[1]

GENTLEMEN,—When the subject of ventral hernia was last brought forward we limited ourselves to the subject of prevention of it, and I therefore confined my remarks to those hernias of the abdomen which are traumatic in origin. Traumatic hernias occur in any part of the abdomen, and are usually "incisional," resulting from the surgical treatment of some form of intra-abdominal disease. The need for prevention of such hernias by the careful planning of incisions according to the anatomical peculiarities of the abdominal wall was pointed out, whilst emphasis was laid upon the dangers which may follow a section of the middle line of the abdomen, or of the linea semilunaris. You were reminded also that no cut should be made across muscular fibres, and that a perfect wall is left when the rectus muscle has been temporarily drawn to one side for the purpose of an operation.

The hernias which I wish to speak about to-day are those which permit of a more regular classification according to their anatomical position, but which vary very much in their clinical importance. It would be best to mention those which are of minor value first, and afterwards give more particular attention to the largest of the groups, that which is met with at or in the region of the umbilicus. Umbilical hernia is not usually included under the term ventral, but for this occasion I propose to depart from the usual classification.

DIVARICATION OF RECTI.

In order to clear the way somewhat, the condition known as divarication of the recti must be mentioned. It is not, properly speaking, a hernia, but is not infrequently spoken of by some as if it were a hernia. There is a bulging of the middle line of varying width, which may extend from the ensiform cartilage to the pubes. You see it in rickety children, and frequently in multiparæ with weakened abdominal wall. There is here a photograph illustrating this protrusion in a woman with unusual pigmentation of the skin. (Fig. 9.) The patient has raised her head and shoulders from the bed, so that the abdominal muscles are in action. It does not usually call for any special kind of treatment, but if it does want attention, all that is necessary is supplied by means of an abdominal belt. Very rarely it may be advantageously treated by operation. In the rickety child the subject recovers with the improvement which follows the recognised treatment for rickets.

EPIGASTRIC HERNIA.

The hernias met with in the middle line usually appear above the umbilicus, and are found anywhere between that point and the ensiform cartilage. They are rare in women, and cause an amount of discomfort out of proportion to their size. A man complains of troublesome neuralgic pain in the epigastric region, and on examination of the part a small nodule of fat is felt which is fixed in the middle line; frequently this is not larger than a pea, but cannot be pushed back into the abdomen. The pain is described as of a neuralgic nature, and the patient has much tenderness when the spot is touched. There may be more than one of these protrusions, which are sometimes mistaken for ordinary fatty tumours. In a case recently under my care there were three hernias placed closely one above the other. They are mostly pieces of the subperitoneal fat which have come through a weak spot between the crossing fibres of the linea alba. I have met with this form of hernia in boys of about 10 years of age, and possibly the deficiency is in children a congenital one, but it is more likely to form at the time when a general deposit of fat is apt to weaken parts which were originally of sufficient strength. The manner in which these epigastric hernias form contradicts most strongly the theory that all hernias are due to the presence of pre-existing pouches or sacs of the peritoneum.

It seems difficult sometimes to understand why the subject of such a protrusion, often not larger than a pea, should have so much pain, but it must be remembered that the opening is placed in very unyielding tissue, and the neck of the protrusion must be tightly nipped. The presence of a small balloon-like process of peritoneum inside many of these fatty lumps must be remembered if they are subjected to operation. Although operation is frequently required to relieve the pain, it is not often required for strangulation. I can only remember having to operate for strangulation on one occasion, and that was in a man of 50 with a history of 24 hours' strangulation of small gut. As a rule, it is only necessary to ligature the neck of the sac, cut off superfluous tissue beyond this, and put in one or two sutures to close the opening in the linea alba, which has a somewhat oval shape wider from side to side. The sac must be opened to see that it is empty before a ligature is put on, and if the opening in the linea alba is unusually large, overlapping of the edges should be done as in the operation for umbilical hernia which we owe to the Mayos. The larger hernias are the less painful, and if preferred they may be kept in check by a truss. They do not often exceed the size of a chestnut. They may contain both intestine and omentum.

HERNIA IN LINEA SEMILUNARIS, &C.

Hernia in the linea similunaris, if we except that form which is known as the direct inguinal, is very rare. Macready, in his treatise on rupture, could only refer to 23 such protrusions, only nine having been seen at the Truss Society in a period of 20 years. He states that it is most frequent on the left side, and below the level of the umbilicus after the middle period of life. A man aged 76 years, who applied at St. Thomas's Hospital three years ago for the treatment of a right inguinal hernia, had also a protrusion of the size of a walnut at the outer margin of the left rectus in a line from the umbilicus to the anterior superior spine, and a radical cure was performed for each of them. A few months later he came back for symptoms of enlarged prostate, and recovered after removal of an adenoma of it. In this case the hernia came through a rounded opening the size of a No. 16 catheter; the sac, which contained omentum and small intestine, had made its way under the aponeurosis of the external oblique, but had not passed through it. Hernias through the lineæ transversæ of the rectus muscle have been seen, but are very rare, and appear only in those of advanced age. It is advisable to apply a truss for their relief.

Lumbar hernia, again, is a rare form of protrusion coming on as a result of congenital deficiency or developing spontaneously. It presents the usual signs of a hernia, but unless its occasional occurrence is remembered it may be mistaken for a lumbar abscess due to disease of the spine, for both may give an impulse on coughing.

UMBILICAL HERNIA IN INFANTS AND CHILDREN.

Of the hernias arising at the umbilicus we very rarely see the congenital form, and when we do meet with it the child has frequently some deficiency in development which renders its life a very short one. Those which form before the fall of the umbilical cord are perhaps wrongly described as hernial protrusions, for the contents of the sac have not been in the abdomen at all. At the beginning of the third month of intra-uterine life the omphaloenteric duct withers and separates. The viscera are drawn in and the wall of the abdomen covers them. If these changes do not take place at the proper time or do not occur normally, then this form of hernia is seen.

The congenital form is divided into three varieties:—

1. A protrusion at the root of the cord, coming through a small opening. Here there may be merely a thickening at the root of the cord which may escape the attention of a midwife, and a ligature applied after the birth of the child may include a loop of gut or a Meckel's diverticulum, and cause the formation of a fæcal fistula or death from strangulation of the bowel.

2. The sacculated hernia is the form which comes most commonly under our observation. Here the coverings are formed by the amniotic layer, and a process of the peritoneum, with some scanty connective tissue between.

[1] Lecture I. was published in THE LANCET of Oct. 5th, p. 931.

It is frequently the size of a cricket-ball, and may appear pedunculated, owing to the amount of constriction at the attachment to the skin. The liver is often found in the sac, altogether or in part; in the latter case it is constricted by the opening. It can be readily understood that this form of hernia is very fatal, for the coverings rapidly become dry, and separate, leaving the peritoneum, which in favourable cases may cicatrise, but more frequently the whole covering decomposes, the peritoneum inflames, and fatal spreading peritonitis develops. The sac may burst or strangulation occur. The earlier such a hernia is subjected to operation the better chance the child will have, for changes take place very quickly in the coverings of the sac. I am strongly of opinion that the best thing is to open the sac, reduce its contents (not always easy), cut away the sac, coverings, and cord, and suture the opening. If the liver or part of it is in the sac, then operation may be difficult. Not only is it adherent, but there does not always seem to be room for it in the abdomen. In the last two cases under my care the liver has been in the sac and irreducible without operation. I quite admit that the hernia is most frequently a fatal one, partly because of delay in procuring surgical treatment, for unless these children are treated within 24 hours the mortality must continue high. The application of a pad and bandage is not good treatment. It postpones operation until the structures are septic, and interference with the part unlikely to be successful.

3. In the third variety, one of pathological interest only, the deficiency in the wall of the abdomen is very great, and there is eventration, the child not being viable.

Of the hernias which form at the umbilicus after the fall of the cord, those which present in children come through the cicatrix left after the opening has closed. Of this variety it is not necessary to say much, for although it is common amongst London children, the inconvenience which it causes is slight and the treatment simple. If a flat pad is retained over the opening the natural tendency to close will be helped, and the hernia will disappear in a few months. I have heard that there is a disposition to subject these patients with infantile hernia to operation at the present day, but such interference is unnecessary and should be discouraged. Recovery is perfect without. You never see this form of hernia in children of 10 years of age or older.

UMBILICAL HERNIA IN ADULTS.

When umbilical hernia occurs in the adult we have a very different condition of things; instead of a finger-like protrusion, which is easily reduced and never becomes irreducible, we have a swelling consisting of omentum forcing its way into and then through a weak spot near the umbilical cicatrix which does not yield readily to the dilatation which this omentum is trying to bring about. It is therefore not uncommon to hear a complaint of attacks of abdominal pain or discomfort following on some strain, the reason for which it is not easy to understand until a tender spot at the umbilicus is located during one of the attacks. Sir A. Cooper said that this form of hernia gave rise to more pain, sickness, and flatulence than any other, and the pain may be distressing. This observation will be confirmed by those who have seen many of them, and we all know how very frequent attacks of incarceration are in the subjects of acquired umbilical hernia.

Very little difficulty can be met with in making a diagnosis of such hernias. I remember, however, being sent for on one occasion to see a man with supposed strangulation of an umbilical hernia. He was a man of 72 years of age, unable to give any account of himself, but it was stated that he had been ill for a week, with pain in the abdomen, increasing swelling at the umbilicus, and sickness. There was a large rounded tumour at the umbilicus, the skin over which was tense and red in colour. This swelling was resonant in the upper part and dull in the lower. The suggestion was that the gut had become gangrenous and that there was suppuration in the sac. The man was, however, very tender in the lower abdomen, and thickening could be traced over this region, widening as it neared the pubes; this was dull on percussion. I was inclined to regard the condition as primarily one of extravasation of urine, secondary to an ulceration of a bladder pouch, but after his death we found that the decomposing urine liberated from the umbilical swelling at the operation had escaped through the base of a malignant ulcer of the bladder.

Characters of acquired Umbilical Hernia.

These hernias in adults (Figs. 10–14) vary immensely in size and shape; those seen in hospital work are always large unless for some reason or another a small one is giving pain. As a rule they are round and outstanding, with a contraction about the base, but they may spread out in the fatty layer of the abdomen and produce very little change in the appearance of the abdomen, although large. They are usually loculated; sometimes the original hernia is carried forward on a larger secondary one, and the whole swelling resembles the shape of a cottage loaf. In one case at St. Thomas's Hospital the hernia was trilobate and extended half way to the knees. They increase mostly downwards, and the edge of the aperture of exit will be found near the upper border. The contents vary, but it is usual to find much omentum, adherent in front and filling many loculi. On the surface is the umbilical cicatrix, and frequently the scars of previous ulcerations. These ulcerations are not without their dangers when the coverings of the hernia are thin, a statement which applies also to the traumatic ventral hernia. During the ten years 1900–09 there were two cases admitted to St. Thomas's Hospital with incisional hernia which illustrate this fact; in the one instance the ulceration extended into the sac and caused peritonitis, and in the other the coverings weakened by ulceration ruptured, allowing the contents of the hernia to escape on the surface of the abdomen. In both prompt and judicious operation saved the life of the patient, but in the second it was necessary to excise several inches of small gut which had been invaded by the ulceration. Want of cleanliness and the rubbing of the patient's clothing are the principal causes of this complication; I have known it to become malignant in character. Eczema of the skin under the hernia is common.

Question of Operation.

The type of patient who presents this form of hernia is well marked—a fat woman, often very, very fat, who has had children, and is addicted to alcohol; one who, in addition, gives a history of chronic bronchitis, has emphysema of the lungs, and a dilated right heart frequently associated with renal disease. Is it a cause for wonder that operation is so frequently shirked when these persons suggest at a late stage that a radical cure would be acceptable to them? I am not sure, however, that we do not as a profession refuse to accept a risk which may be made comparatively small (compared with the advantages to be obtained) by careful preparation of the patient. It is sometimes advisable to treat a case for a long time before the required standard of health is obtained and other conditions favourable. The danger of strangulation of the bowel in these hernias is so great that you are often justified in advising the minor risk of a radical cure. A few months ago I had to go into the country and operate for a strangulated umbilical hernia, the patient dying a few days later from bronchitis, of which the strangulated hernia was a complication. It was stated that relief by operation had been refused her a few months before by more than one member of the profession, although there were then no complications.

The effect of radical cure in umbilical hernia as regards the prevention of strangulation is not so marked as in other forms of hernia. If we take inguinal hernia, for instance, and compare 1900 with 1909, we see the result at the end of ten years: 209 radical cures with 37 cases admitted for strangulation in the former year, as against 426 and 16 in the latter. Of all forms of umbilical hernia admitted to St. Thomas's Hospital during the years 1900–09 inclusive, 231 in number, 77 were suffering from strangulation of contents, and of these 28 died, the proportion of strangulated to other clinical varieties being far beyond that seen in inguinal or femoral hernias. The relative dangers of an umbilical as compared with a ventral (incisional form) hernia are shown by the statistics for the same period of years—146 cases of ventral hernia were admitted, and of these only 8 were admitted for strangulation.

The exact tables for all forms of hernia for the series of years given above are worth quoting, exhibiting as they do the relative proportion of strangulation in each variety, and therefore the proportionate danger to the individual. There were admitted of ventral hernia 146, including 8 strangulated; of umbilical hernia 231, including 77 strangulated;

of femoral hernia 613, including 268 strangulated; of inguinal hernia 3778, including 341 strangulated.

	Reducible.	Irreducible.	Recurrent.	Strangulated.
Ventral	64	62	12	8
Umbilical	53	94	7	77 (fatal—28)
Femoral...	194	130	21	268 (fatal—45)
Inguinal	2959	347	131	341 (fatal—47)

It may be that the patients conceal their protrusion more carefully until it is so large they can hide it no longer; then the medical man consulted thinks they would run too much risk considering their medical complications and obesity, or perhaps he does not think that any method of radical cure is efficient. But the method introduced by the Mayos, to which I shall return later, has much changed, and for the better, our hopes of obtaining a radical cure which shall be permanent.

Advantages of Early Operation.

Whenever possible a radical cure should be attempted whilst these hernias are small, for nothing else will prevent their slow and painful increase, with attendant dangers, and the smaller the opening through which they have come the better the chance of permanent closure, and the less severe the operation required.

Contrast the operation as performed under favourable circumstances with that required when strangulation is present. In the latter there is often an immense swelling to be manipulated in a patient who is from many causes a difficult subject for anæsthesia. Perhaps we should get a better result from hedonal, given intravenously, but the not infrequent straining and coughing during the progress of such an operation, especially in a bronchitic patient, used to render it exceptionally difficult—no sooner was the sac opened than a cough would force the contents out of the wound, or straining prevent their return into an abdominal cavity long unaccustomed to their presence, and where the space they formerly occupied is now filled up with a proportionate amount of fat deposited in various parts.

FIG. 9.

FIG. 10.

FIG. 11.

FIG. 12.

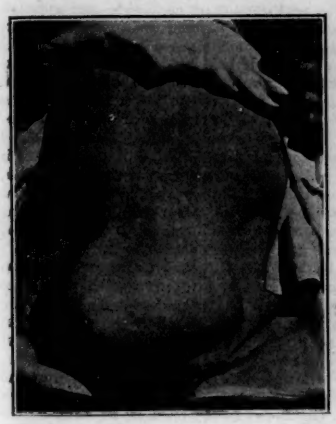

FIG. 13.

FIG. 14.

DESCRIPTION OF ILLUSTRATIONS.

FIG. 9.—Divarication of the recti in a female patient, with unusual pigmentation.

FIG. 10.—Irreducible umbilical hernia.

FIG. 11.—From a specimen removed during the operation for radical cure of umbilical hernia, showing much fat from the abdominal wall and the sac, with adherent omentum.

FIG. 12.—Irreducible umbilical hernia.

FIG. 13.—Irreducible umbilical hernia, with much superficial ulceration of the skin.

FIG. 14.—Umbilical hernia.

The anæsthetist was often afraid of his patient, and unwilling to press the anæsthetic; he was probably an inexperienced man who had to act in a night emergency. Everything tended to make the operation a prolonged one, whilst the duration of the vomiting, pain, and other symptoms of strangulation had not helped to improved the condition of the pulse or strengthen the patient to stand the strain of a severe and prolonged operation. During the years 1900–05 inclusive there were 20 cases of strangulated umbilical hernia admitted to St. Thomas's Hospital which ended fatally after admission. Of these, a very very fat woman, 46 years of age, died from peritonitis after reduction in a bath of a hernia which had only been strangulated seven hours. A child, 4 days old, died from peritonitis after reduction by taxis of a small hernia which had caused symptoms for 36 hours. A woman, aged 42 years, who was very fat, with an enormous hernia, had symptoms of seven days' duration. Moribund when admitted, she only lived two hours. In 10 cases gangrene of the gut was present at the operation, which was performed after symptoms had been present for six hours, one day, two days (2), three days (2), five days, six days, and seven days (2). As most of these were of the type I have mentioned, it is no wonder that they did not survive the operation. Of the others age had something to do with the result in addition to the unsatisfactory medical state—two patients aged 65 years with symptoms of four days' duration, 1 aged 72 of six days' duration, and another aged 75 of three days' duration. All these were females with the exception of two.

It is possible that the not infrequent occurrence of pains, from which they had recovered on other occasions, associated with old-standing hernia had induced some of these patients to put off going to the hospital in the hope that a few hours would see them well again. A few years ago the cause of death in most of these cases was peritonitis, and it is interesting to find that in only 12 in this number of 28 who died in the years 1900–1909 was peritonitis found or suspected as the cause of a fatal ending, and three of them were not subjected to operation, whilst in some it had undoubtedly commenced before operation. The shutting off of the abdominal cavity from the wound by closure of the neck of the sac has done much to help in the prevention of this complication. When I was a student a drainage-tube was passed directly into the peritoneum after operation for strangulated umbilical hernia, introducing a fresh element of danger, especially as the patient was condemned to lie on her back during the after-treatment. Septic discharges, if any formed in the wound, were apt to run backwards, and could not escape entirely into the dressings.

DETAILS OF OPERATION.

There are few diseases in which rapid operating is of more value to a patient. To a smaller degree this quickness is required in the larger forms of irreducible umbilical hernia. In both the operator should make incisions across the abdomen, with the deliberate intention of excising a large wedge-shaped portion of the fat of the abdominal wall. The incision should be carried down to the surface of the external oblique muscle, sometimes a depth of three to four inches, with a few strokes of the knife, and the neck of the sac defined. This should be opened to the left of the middle line or below, where there are few, if any, adhesions. After the sac has been opened the bowel should be reduced and kept in position by means of a gauze strip. The omentum must be freed from its attachments if there are any at or near to the neck of the sac, and drawn forward. Artery forceps are then applied until the whole of the omentum outside has been clamped; the part beyond the clamps is then cut away, retaining its attachments to the sac, no effort being made to free these. (Fig. 11.) Ligatures are then put on, the forceps removed, and the stump returned into the abdomen. Silk ligatures will be found the best, No. 1 size being quite strong enough. The only instances of hæmorrhage after ligature of the omentum in hernia operations in my experience, so severe as to necessitate the opening up of a hernial wound, occurred many years ago after the use of catgut. The more omentum removed the better for the patient; it should not, however, be cut away too close to the transverse colon. It has been recommended that in cases where the abdomen is evidently unable to receive the amount of large bowel which requires to be put back a resection should be done at once of what, in the opinion of the surgeon, is superfluous. In the hands of some surgeons this has been done with great success, a lateral anastomosis being performed. When resection is done of necessity on account of gangrene of the gut, that is small gut, the danger is that enough may not be taken away, for it is essential that healthy gut be left. The shock of a resection does not depend on whether 5 inches or 25 inches are removed, but sutures must be placed in sound material, or the operation will be a failure. The peritoneum is usually so closely attached to the fibrous ring of the umbilicus that it cannot be separated before the parts are brought together, and secured in the overlapping position, independently of the fibrous flaps. The umbilical opening in these cases is mostly transverse, and differs from that found when the opening is one following incision; the transverse opening which is further and automatically narrowed by the lateral pull of the muscles should be enlarged when necessary to relieve strangulation by lateral incisions; it should not be cut downwards or upwards. Sometimes, to permit a better suturing, a lateral cut should be made on each side for an inch or more. By this we get some definite aponeurotic flaps.

Methods of Closing Hernial Opening.

When an incisional hernia has developed, its successful treatment will depend on many factors, not the least of which is the condition of the patient as regards obesity, &c.; but much will also depend on the size and position of the protrusion. These things have led to the invention of more than one method of operation. Should the scar have yielded only slightly, then the overlapping method of Mayo, as used for the closure of an umbilical opening, may be frequently used with success; but as these incisional openings become, sooner or later, if untreated, more or less ovoid from above downwards, and may extend for the full distance of the old incision, it is obvious that occasionally some other method must be tried. Condamin, Socin, and Sanger suggested that the sheath of the rectus bounding the hernial neck should be split by a vertical incision until the muscular fibres were exposed. In closing the wound four layers of sutures were then introduced, one picking up the posterior layer of the sheath of the rectus with the peritoneum on each side, one approximating the muscles, and a third uniting the anterior layer of the sheath. This method is considered a great improvement upon the original method, but Moynihan has given it up in favour of an overlapping operation. One difficulty which is apt to be encountered in this operation is due to the separation, often very wide, of the recti near the umbilicus. Dauriac suggested that the inner portions of the opposing recti should be overlapped; a broad band of each rectus is split off along the inner margin, cut free at the lower end, and the free end of the left flap is stitched across to the right side and *vice versâ*. But after the operation the transplanted muscle becomes transformed into fibrous tissue, if it lives, and a weak and yielding scar results.

Professor A. E. Barker was the first to suggest that an infolding of the rectus sheath by bringing together surfaces rather than edges would give increased strength to the line of union. He advised: "The use of a double row of sutures, the first as given above to unite the edges of the opening, the second to give extra strength to the scar, are passed through the anterior layer of the sheath of the rectus on each side at about one-third of an inch from the edge of the ring. On these being brought together a considerable fold of fibrous tissue is inverted and brought into contact in the middle line, over the first row which closed the ring."

Noble, Fergusson, and others have adopted plans somewhat similar to that suggested by Dauriac, except that flaps are made of the sheath only, and these are interlaced each with that of the opposite side, or a flap is raised on each side consisting of the whole thickness of the anterior layer of the rectus sheath, the base of the flap being at the inner margin of the muscle. The flaps are then turned over to the middle line, and there sutured in such a manner that the surface, formerly anterior, now becomes posterior.

When the hernia is in the linea semilunaris; has come through a divided rectus muscle as after many cases of operation and drainage for peritonitis; or, again, when it follows the treatment of an appendix abscess, the best result

may be obtained by a separation of the edges of the opening into their proper layers and a resuture of them in their normal planes. Sometimes the mattress suture appears to bring parts together most satisfactorily; they may also be overlapped if the muscles are not too contracted and fixed.

Use of Metallic Bodies.

In the use of foreign metallic bodies as aids to a permanent cure, asepsis, in the first place, is of paramount importance. Cases are recorded in which suppuration occurred without preventing a good result, but this can only be said of the fine silver wire filigree. Secondly, the most perfect pliability is necessary in order that the apparatus shall at all times and in all positions yield to the bodily movements. Most of the rigid gridirons and perforated metal plates were uncomfortable and even dangerous. Thirdly, perfect freedom of vascular anastomosis through the apparatus must be possible, otherwise it will become to a large extent encysted and imperfectly fixed.

The problem of how to induce the tissues to accept and tolerate such a foreign body was satisfactorily solved in 1903 by Dr. Willard Bartlett, of St. Louis, who pointed out the fact that pliability of the apparatus was one of the chief essentials to success. Mr. Lawrie H. McGavin has written in favour of this method in this country. The technique of the operation varies according to the situation, but in the case of ventral hernia the filigree is placed between the posterior part of the rectus sheath and the muscle.

The Mayos Operation.

If possible in umbilical hernia the peritoneum is separated from the under surface of the upper flap, and the lower flap is drawn up behind the upper one by means of strong mattress sutures. Mayo also recommends that before these sutures are tied traction should be made upon them to allow the peritoneum to be closed by a continuous catgut suture. The mattress sutures are tied, and the lower edge of the upper flap is sewn to the front of the base of the lower one. The results by this method are good, better than those by any other form of operation so far as we know at present. It is hardly necessary, therefore, to speak of any other method of closing the deeper parts, the valvular should always be chosen as against a direct one in umbilical hernia. Mayo's operation is founded on the fact that in the subject of umbilical hernia the abdominal wall is too long and pendulous in a vertical direction, so that it is far easier to get superior and inferior flaps than to obtain lateral ones.

A CASE OF

SEPTIC THROMBOSIS OF THE LEFT SIGMOID, LEFT CAVERNOUS, AND LEFT INFERIOR PETROSAL SINUSES,

WITH A SUGGESTION FOR TREATMENT IN FUTURE CASES.[1]

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A BOY, aged 12 years, was admitted to St. Thomas's Hospital on April 29th, 1912, with discharge from the left ear, and tenderness, swelling, and pain over and behind the left mastoid.

Previous history.—The patient had suffered from scarlet fever at the age of 2 years, and subsequently from measles and chicken-pox. The left ear had been deaf, and there had been occasional discharge from it since the occurrence of scarlet fever. A throat operation was performed when the patient was 3 years of age. Adenoids had been removed four weeks previously to admission to hospital.

History of present illness.—For some months the patient had had occasional pain in and around the left ear. A week ago severe pain in the ear had occurred, and more discharge was noticed from the ear. The pain had continued, and the patient had been drowsy for three days. No vomiting had taken place. The patient complained of pain in the back of the head and neck on sitting up.

[1] A paper read at the International Otological Congress, Boston, August 12th, 1912.

State on admission.—The left pinna was displaced downwards and outwards by a mastosquamous swelling which was very tender. There was foul pus in the left ear. Hearing was *nil* in this ear except by bone conduction with a tuning fork on the skull. The patient lay curled up in bed on the right side, and was drowsy and apathetic. The pupils were normal. There was horizontal nystagmus in both directions, being most marked in the left eye. No retinal changes were observed. The right knee-jerk was more brisk than the left. Plantar reflexes flexor. Slight ataxia in walking. Temperature 102° F.; pulse 108. The spleen was easily felt. The left external jugular vein was very prominent, and a large vein extended over the left side of the scalp, from the region of the parietal foramen to the upper part of the external jugular.

Operation forthwith.—The bone behind the ear was exposed by vertical and horizontal incisions. The complete mastoid operation was done. Every cell in the mastoid was lined with greyish-white gangrenous mucous membrane. Not a great deal of pus was found in the mastoid, but a cholesteatomatous mass occupied the tympano-antral cavities. The sigmoid sinus was then explored; pus oozed from the bony groove of the sinus. The sinus was exposed for a considerable distance, and the dura, in front of and below it over a considerable area, was also exposed. The outer layer of dura bounding the sinus for two inches was white and gangrenous. On removing it no bleeding occurred, as the sinus was thrombosed. The dura in front and behind the sinus was white for about one inch, its outer layer being evidently dead. The sinus was followed backwards nearly to the torcular. The petrous in front of the sinus was cut away till the back of the bulb was exposed; in doing this the facial canal was defined. The jugular vein was then dissected in the neck, its tributaries tied, and after being divided between ligatures, the upper end was brought to the surface. (Fig. 1.) Lumbar puncture yielded one ounce of opalescent fluid.

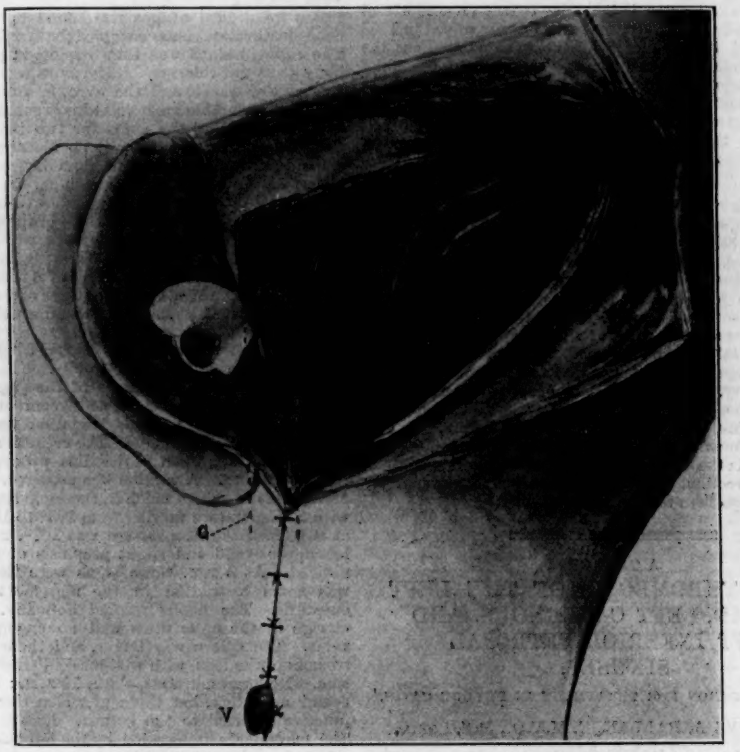
On May 1st the temperature was 104° F., the tongue was dirty, and the patient was drowsy. The lateral sinus, the bulb, and the upper segment of the jugular were irrigated with hydrogen peroxide. The stream of fluid through the bulb was quite free. This irrigation was done daily when the dressings were changed. The cultures made at the operation showed a growth of bacillus pyocyaneus and staphylococcus aureus. A vaccine was prepared.—7th, 2 P.M.: The patient has remained much in the same state since last note, with a temperature varying from 102° to 105°. This morning at 9 o'clock the temperature was 107°, and œdema of the left upper eyelid and slight proptosis of the left eye were noticed. At 2 P.M. these signs were the same, and there was some restriction in the movement of the left eye outwards. The pupils reacted normally. There was no change in the optic discs and no engorgement of retinal veins. The spleen was larger, and there were involuntary tremors in the legs, with well-marked patellar clonus on each side. No heart murmurs.—8th, 10 A.M.: Œdema of the left eyelid as before, but there was also chemosis of the conjunctiva external to the cornea. Left pupil almost stabile. The movements innervated by the left third nerve were all affected, and no outward movement of the left eye was possible. The retinal veins were engorged. Mr. J. B. Lawford (the ophthalmic surgeon) suggested that the absence of retinal signs yesterday might have been due to the thrombosis only affecting at first the posterior part of the cavernous sinus, so that the retinal blood was able to escape freely by means of the pterygoid plexus. Right eye normal.

Operation forthwith.—The left cavernous sinus was exposed by the Hartley-Krause incision for operation on the Gasserian ganglion. No trouble with hæmorrhage was met with. An incision into the cavernous sinus was made about one inch long, and out came blood clot, and, from the posterior end of the incision, pus. (Fig. 2.) After the cavernous sinus had been irrigated with hydrogen peroxide a tube was passed into it and fixed there. Attention was then given to the wound made at the previous operation behind the ear. It was found that the dura in front of the vertical portion of the sinus was gangrenous in its whole thickness, and from the upper and inner part a little pus mixed with blood was oozing from an opening in the sloughed dura. This opening was enlarged and the dead dura removed, when a meningo-cortical abscess of the cerebellum came into

view, about the size of a Barcelona nut. This was washed with hydrogen peroxide, and tamponned with a strip of gauze. May 9th: Rigor. Temperature 107° at 8.30 A.M.; pulse 130. Slight œdema of the right upper eyelid. No retinal changes in the right eye. Incontinence of urine. Slight swelling and tenderness on the dorsal aspect of the left wrist. Vaccine was given. The cultures taken from the septic clot removed from the cavernous sinus grew a streptococcus.—10th: Besides slight œdema of the right upper eyelid there was slight impairment of movement in the right external rectus. There were no retinal changes in the right eye. Temperature 105°; pulse 140. The patient died in the afternoon.

Necropsy.—Part of the left lateral sinus towards the torcular not exposed in the wound contained uninfected clot. The bulb and upper segment of the left jugular were free from clot. The left inferior petrosal sinus was full of pus.

FIG. 1.



Sketch of first operation, April 29th, 1912. The complete mastoid operation was done and the sloughed outer wall of the sigmoid sinus was taken away for some distance (s). The jugular vein was divided and the end of the upper segment fixed to the skin of the neck (v). A, Inner wall of antrum. T, Inner wall of tympanum; posteriorly is seen the bend of the facial canal. G, Dotted line shows course of jugular vein in upper part of neck. By working behind and internal to the descending part of the facial canal the jugular bulb was in part exposed; the facial canal was first defined so as to protect it from injury. The bulb rose to a high position on the inner side of the tympanum.

The left cavernous sinus was empty, except at the posterior part, where a little pus was seen. The left superior petrosal sinus was normal. The left half of the circular and the left half of the transverse sinuses contained septic clot. No sign of disease was found in the right cavernous sinus. The meningo-cortical abscess cavity was free from pus; it had been satisfactorily drained and tamponned. The brain and other organs showed no further pathological changes except those due to high temperature.

Remarks.

Thrombosis of the cavernous sinus may occur from frontal sinus or sphenoidal sinus infection, from cellulitis of the face, carbuncle of the neck, meningitis, sarcoma of the base of the skull, marasmus, and traumatism, as well as from extension of septic processes from the sigmoid sinus or petrous bone. Dwight and Germain in an important paper[2] refer to 184 published cases in which only 14 patients recovered. In one of Dr. Dwight's cases he incised the cavernous sinus after opening the dura of the middle fossa. In this series of cases, 43 were ear cases, and in all the sigmoid sinus was involved primarily.

Knapp[3] had previously published a case of aseptic thrombosis of the cavernous sinus in which operation was done by Hartley. The thrombosis was due to the growth of a sarcomatous tumour. Aseptic clot was removed, but Meckel's space was opened. Meckel's space certainly ought not to be incised in septic cases, as such a procedure opens the subarachnoid space. The operation was done on March 1st, and death occurred on May 16th. The operation, so far as it concerned the cavernous sinus, was successful. Knapp suggests that the operation should be extended to septic cases, but Bircher had already eight years previously operated successfully on a septic case.

StClair Thomson, in a paper on the cerebral and ophthalmic complications of sphenoidal sinusitis,[4] deals with cases in which the cavernous sinus has become infected from disease lying either in front or below it. In the cases with which the present paper deals the sinus is always affected first at its posterior extremity.

Levinger, of Munich,[5] has recently recommended for infective thrombosis of the cavernous sinus the removal of the contents of the orbit and resection of posterior part of the bony inner wall of the orbit up to the optic foramen.

[2] Boston Medical and Surgical Journal, 1902.
[3] Archives of Ophthalmology, 1900.
[4] Brit. Med. Jour., September, 1906.
[5] Zeitschrift für Ohrenheilkunde, vol. lxiv., 1912.

This method allows of the exposure of the inner and lower wall of the cavernous sinus after a further removal of bone has been done—namely, the resection of the outer and anterior boundaries of the sphenoidal sinus. This method has not been tried on the living. It would appear that the throwing of the optic foramen and sphenoidal fissure into one channel by removing the bone between the two would effectively expose the anterior end of the cavernous sinus without touching the sphenoidal sinus.

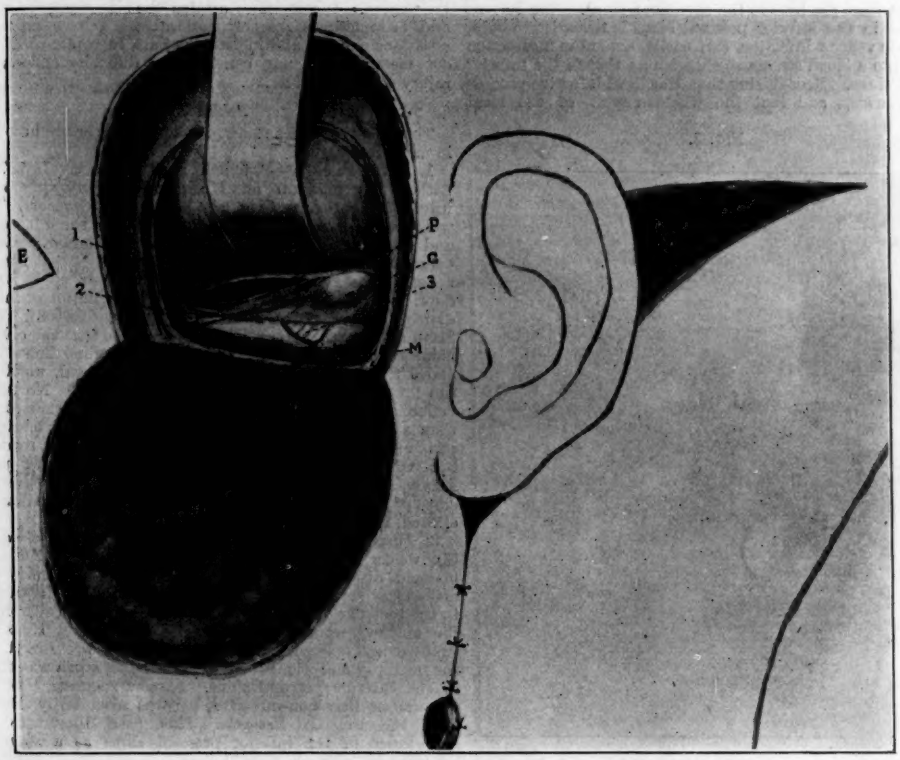
Treatment that is desirable in septic thrombosis of the ophthalmic vein and anterior end of cavernous sinus, such as clearing out the contents of the orbit and incision of the anterior end of the cavernous sinus, is clearly inapplicable to an infection which has spread from the bulb by way of the inferior petrosal sinus to the posterior end of the cavernous sinus. The cause of the infection of the cavernous sinus being determined the appropriate operation will be obvious, as the infection is one continuous process which should be followed from its primary site to its ultimate extension.

In 1887 Coupland [6] described a case of thrombosis of the cavernous sinus and gave the following clear description of the symptoms which may appear in this disease. 1. *Those due to venous obstruction.* (*a*) Proptosis; (*b*) œdema of eyelids and chemosis of the conjunctiva when the thrombosis extends into the ophthalmic vein; (*c*) œdema of the face when the facial vein is thrombosed; (*d*) enlargement of the frontal veins, due to diversion of the circulation through the orbito-facial anastomosis; (*e*) venous hyperæmia of the retina and choked disc are not symptoms of thrombosis of the sinus. Such congestion depends upon the obstruction involving the ophthalmic and retinal veins. 2. *Those due to interference with nerves.* (*a*) Supra-orbital neuralgia, due to irritation of the first division of the fifth nerve. This division of the fifth nerve is generally the first to suffer. (*b*) More or less paralysis of the muscles of the eye, which may amount to complete ophthalmoplegia, due to affection of the third, fourth, and sixth nerves. The completeness of the ophthalmoplegia indicates a change in the wall of the sinus as well as in its contents—i.e., phlebitis as well as thrombosis.

The remaining remarks refer exclusively to infection of the posterior end of the cavernous sinus in temporal bone suppuration.

The cavernous sinus may be primarily and directly infected from the bone disease when this has extended to the apex of the petrous, the infective focus in the sinus is then directly continuous with that in the bone; in other cases infection reaches the cavernous sinus by way of a connecting sinus. In the case of Bircher [7] the operator worked his way through the petrous until foul pus escaped from the posterior end of the cavernous sinus. For approaching the cavernous sinus in these cases I have adopted the Hartley-Krause method for exposing the Gasserian ganglion, and found it easy and effectual, but probably when pus has been evacuated from the sinus it would be well to adopt the recommendation of Voss, [8] who cuts away the zygoma and removes more bone from the basal aspect of the skull so as to get direct drainage. Operations on the cavernous sinus must be done at an early stage of the infection, because of the great facility with which the disease extends to the opposite sinus through the circular and transverse sinuses, and also because the meninges are likely to be infected. A few years ago (October, 1907) I operated on a boy aged six years who had septic thrombosis of the cavernous sinuses following

FIG. 2.



Sketch of second operation, May 8th, 1912. Exposure and incision of cavernous sinus. 1, First division of fifth nerve in outer wall of sinus. 2, Second division of fifth nerve entering foramen rotundum. 3, Third division of fifth nerve entering foramen ovale. G, Gasserian ganglion in cavum Meckelii. P, Superior petrosal sinus. M, Middle meningeal artery tied above foramen spinosum. E, Outer angle of orbit. Between the first and second divisions of the fifth nerve an incision has been made into the cavernous sinus; out of this incision came blood clot and pus. The cavum Meckelii should not be opened; if it is, the subarachnoid space is exposed to infection.

[6] Transactions of the Ophthalmological Society, vol. vii.

[7] Centralblatt für Chirurgie, 1893, No. 22.

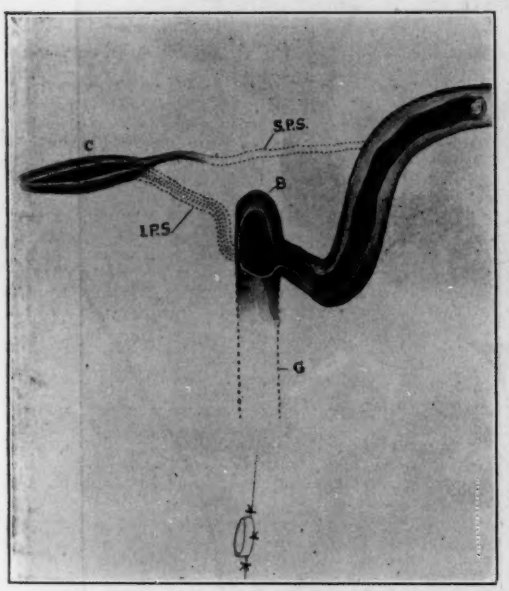
[8] Ibid., 1902, No. 47.

suppuration in the right temporal bone. The right cavernous sinus was easily opened, and on incision of it a teaspoonful of pus escaped; a drainage-tube was fixed in the sinus, but the patient died 24 hours later.

Passow has quite recently published a case of fatal sinus pyæmia in which the inferior petrosal contained a septic clot and was the only sinus obviously affected. It is probable that these cases are, like cases of isolated thrombosis of the bulb, more common than has been hitherto recognised.

The case recorded in this paper is of great interest because careful observation was possible of the signs and symptoms of the onset and progress of the cavernous sinus thrombosis. The operation successfully dealt with the septic thrombosis of the sigmoid and cavernous sinuses; that of the cavernous sinus was done early enough to prevent extension to the other side. There was nothing found at the post-mortem examination to explain the occurrence of slight œdema of the right upper eyelid. The operations, however, did not arrest the acute septicæmia from which the boy was suffering. The inferior petrosal sinus remained untreated. It was the pathway of infection from the bulb to the cavernous sinus. The current of blood in the inferior petrosal sinus is towards the bulb, but septic venous infection can easily extend in a direction contrary to a blood stream so sluggish as that in the inferior petrosal sinus. Recognising that the local infective process is continuous, and that the whole extent of the local

FIG. 3.



Sketch of the venous sinuses involved in this case. The sigmoid sinus was opened up as far as the bulb in the *first operation*. C, The cavernous sinus was incised in the *second operation*. S P S, Superior petrosal sinus (not affected). G, Internal jugular vein. I P S, Inferior petrosal sinus found full of pus at necropsy. I suggest that when the cavernous sinus has been infected by extension of the disease from the sigmoid sinus and bulb, the bulb should be fully exposed and its wall cut away as in the above drawing (B). The opening of the inferior petrosal sinus into the bulb could then be identified, and by means of a syringe and small rubber tube the infective material in it could be washed from the bulb and out through the incision in the cavernous sinus.

infective process demands surgical intervention, it is clear that the operations performed on this case, though extensive, were yet not adequate to arrest the absorption of infective material. When the cavernous sinus was found infected, not only should it have been freely opened and drained as was done, but the bulb of the jugular should have been freely exposed and laid open, so that the opening of the inferior petrosal sinus into the bulb could be seen, and irrigation of the inferior petrosal sinus carried out from the bulb to the cavernous sinus. (Fig. 3.) This is the plan on which I propose to proceed in any future case of infection of the cavernous sinus from the bulb that may come under my care.

In cases of osteomyelitis of the petrous the only treatment is to remove it piece by piece as did Bircher; irrigation of one or both petrosal sinuses would in such circumstances be insufficient to save life. The cutting away of the whole petrous must mean too the exposure, and if thought desirable the deliberate opening, of the petrosal sinuses. The additional advantage is gained of bringing the posterior end of the cavernous sinus directly into the field of operation.

It is not necessary to discuss the best method of completely exposing the bulb. Operating surgeons have devised various plans to this end. The papers of Grunert, Piffl, and Voss on this subject are well known. In my opinion there is no better plan than that of following the sinus till the bulb is reached. The subsequent removal of the bony external boundary of the bulb should present no real difficulty. It should be remembered that the bulb varies considerably in size and in its exact relation to the tympanum. It sometimes attains the size of a large cherry, and is sometimes scarcely noticeable. I have on several occasions exposed and incised the bulb in septic cases without meeting with any considerable difficulty and without injury to the facial nerve.

Addendum.

The following cases referred to in this paper are here given in more detail.

1. *Bircher's case.*[9]—A female aged 25 years. In 1877 the patient had bilateral aural suppuration following scarlet fever. In September, 1892, she had fever with rigors. There were intense headache and tenderness over the left mastoid and half-way down the neck along the jugular. Mastoid operation Sept. 8th. Pus in sinus groove. Great improvement for three days. Then remittent fever up to 104° F. Sept. 16th: Palsy of left third nerve, with irritation of the first division of the fifth nerve (pain in frontal region). 19th: Sixth and fourth nerves also paralysed, so that the ophthalmoplegia became total. 20th: Two trephine holes made above the meatus; pyramid removed piecemeal, until only the lower wall of the carotid canal was left. No further collection of pus was found until the apex was removed, and then a grey discoloured spot was seen from which stinking pus was coming. The patient made a good recovery, but with permanent ophthalmoplegia and facial palsy. *Remarks.*—In this case the posterior end of the cavernous sinus or the inner extremity of the inferior petrosal sinus was opened, and hence efficient drainage was obtained.

2. *Passow's case of infection from inferior petrosal sinus.*[10]—Six weeks after the wound from an operation for acute mastoid disease had healed tonsillitis and pyæmia with metastases supervened. The pyæmia was at first attributed to the tonsillar infection, but on optic neuritis being found the mastoid wound was explored, the sigmoid sinus was exposed and opened, but nothing abnormal was found. At the necropsy a septic thrombus as large as a pea was found in the inferior petrosal sinus. Passow suggests that the clot was at first non-infective, but was secondarily infected from the tonsil. *Remarks.*—This case illustrates the importance of the inferior petrosal sinus as a source of infection.

3. *Coupland's case.*—A woman 43 years of age. The disease commenced with severe left supra-orbital neuralgia and drooping of the left lid. The illness lasted from November, 1886, to March, 1887. Towards the end of January the right lid drooped and there was severe right supra-orbital neuralgia. Finally, on both sides proptosis, ophthalmoplegia, and chemosis of the conjunctiva, which was insensitive, occurred, but the optic discs and retinal grounds remained normal. There was no œdema of the eyelids or any enlargement of the facial veins. The necropsy revealed basal meningitis. The left cavernous sinus was occluded by non-purulent clot, but the right cavernous, circular, and transverse sinuses contained purulent clot. The petrosal sinuses were empty. The source of the infection was not discovered.

Marasmic thrombosis occurs at the two extremes of life. Coupland gives some examples. He also relates three interesting cases of thrombosis of the cavernous sinus due to

[9] Ibid., 1893, No. 22.
[10] Monatschrift für Ohrenheilkunde, 1912, p. 59.

traumatism: (1) Jordan Lloyd's case, following fracture of the base of the skull; (2) Pitha's case of mastoid necrosis after a sabre cut leading to thrombosis of the lateral and cavernous sinuses; and (3) Halke's case, which followed a blow on the head and simulated orbital aneurysm. The paper concludes with a table of 28 cases.

4. *C. A. Ballance's first case.*—The patient, a boy, was admitted to St. Thomas's Hospital on Oct. 17th, 1907, in a drowsy condition with suppuration of the right mastoid region. The temperature was 103° F. and the pulse-rate 104. He had been ill a little more than one week. There were proptosis of the right eyeball, œdema of the right upper lid, and paralysis of the movements of the right eyeball. The same condition was commencing on the left side; there were slight proptosis and slight œdema. On the right side the retinal veins were large and turgid, but there was no change in the optic disc. The left fundus was normal. The complete mastoid operation was done forthwith on the right side, and an incision was made into the right cavernous sinus. Death occurred 30 hours after the operation. *Necropsy.*—Basal meningitis: Dura over tegmen on right side adherent and inflamed. Right temporo-sphenoidal lobe adherent and softened over tegmen. Right petrous discoloured, necrotic, and infiltrated with pus. Septic thrombosis of both cavernous sinuses, the right sinus being more diseased than the left. Circular sinus full of pus. Right sigmoid sinus and jugular vein unaffected. There is no note in the post-mortem record of the state of the right petrosal sinuses. *Remarks.*—This was a case of suppuration of the petrous, and may be compared with Bircher's case. The infection of the right cavernous sinus may have been due directly to the acute osteomyelitis of the apex of the petrous without the intervention of either the inferior or superior petrosal sinus.

5. *Lombard's case.*[11]—A French foot-soldier, who had had several attacks of malarial fever, was taken ill on April 1st, 1903, and got worse from day to day. On the 6th he began to have fever with remissions, the attacks of fever at first occurring at regular intervals, about 5 A.M. and 6 P.M. Subsequently they became irregular. On the 9th herpes appeared round the mouth and nose. Pneumonia was at first thought of, but no physical signs of it appeared. On the 11th he was sent to hospital. On admission he was quite prostrated and had intense headache and a dry tongue. There was fever up to 104° F., with large oscillations. He was treated for five days as a case of malaria. On the 16th swelling of the right eyelid was noticed, and there was an erysipelatous rash over the limbs and part of the trunk. The right eye became prominent and tender, and the pupil ceased to act to light. The œdema and proptosis increased. Suppurative otitis was found on the right side. The frontal sinus was opened but nothing abnormal was found. A few days later the patient died comatose. *Necropsy.*—Infective thrombosis of right cavernous sinus and suppurative meningitis. No visible track connecting the aural disease with the cavernous sinus was found. *Remarks.*—Œdema of the eyelid may occur in frontal sinus suppuration, but since there was already suppurative otitis it would seem that the temporal bone suppuration should have been dealt with at once.

6. *Poulsen's case.*[12]—A male aged 5 years. Discharge from right ear one year. Admitted to hospital July 3rd, 1884. He had been ailing for 14 days with headache, fever, and pain in the right ear, had become apathetic and fretful, and the bowels had been confined. He had not vomited. On admission he was apathetic, but he screamed on the least touch. Temperature 102·2° F. Pupils equal but sluggish. Slight discharge from the right ear. On the next day he was cyanotic and he vomited frequently, and often screamed loudly. On the day following he died. *Necropsy.*—Pus in tympanum. Extradural abscess in sigmoid groove. Thrombosis of superior and inferior petrosal sinuses. No meningitis. Brain normal. Superior longitudinal sinus and lateral sinus normal. Dura easily detached from petrous nearly to the internal auditory meatus; here a little pus was found and the superior and inferior petrosal sinuses were blocked by thrombi. *Remarks.*—This case, like that of Passow, is an example of isolated thrombosis of the petrosal sinuses. No temporal bone operation was done. The case occurred many years ago. At the present time the temporal bone disease would be promptly dealt with and the sigmoid groove abscess and that by the internal auditory meatus would be evacuated by following the pathway of infection. Modern surgery offers a fair prospect of saving the lives of such patients.

I am greatly indebted to Mr. Neill Hobhouse, my dresser at St. Thomas's Hospital, for the careful and accurate notes taken by him of this case.

[11] E. Lombard: Annales des Maladies de l'Oreille, 1904, vol. i., p. 146.
[12] Poulsen of Copenhagen, Archiv für Klinische Chirurgie, 1896, vol. lii., p. 460.

THE PREVENTION AND CURE OF BERI-BERI.

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A. *The Prevention of Beri-Beri.*

IN previous communications[1] there have been reported the results of our investigations concerning the etiology of beri-beri. By an unbroken sequence of observations and experiments beginning with rices associated with outbreaks of beri-beri, it has been demonstrated that rice is rendered harmful by the milling and polishing process to which it is subjected in the preparation of polished rice. In this process there is removed from the grain some substance of high physiological importance, the absence of which results in the production of polyneuritis in fowls and of beri-beri in man when a diet is consumed of which polished rice is the staple. Whether this substance acts by rendering other elements in the diet available for nutrition or whether it is itself the nutritive material necessary for nerve tissues can in our present state of knowledge only be matter for conjecture.

But the isolation and identification of this substance form a matter of scientific rather than of immediate practical importance to those of us who are concerned with the prevention of beri-beri, though we are well aware that results may eventually be obtained of much wider significance and importance than can at present be appreciated. The work of other observers has confirmed the accuracy of our researches, and with our present knowledge we are in a position to deal with the question of preventive measures.

Harmless and harmful rices can readily be distinguished by simple inspection, but the definition of unpolished and polished rices on the basis of histological differences alone would not suffice for practical purposes, and it is necessary to have in addition a chemical standard. The various constituents of the rice-grain are not distributed uniformly throughout the cells, and it is for this reason that certain of these substances are available for the purpose of a standard or as an indicator of the extent to which the grain has been polished.

The greater part of the fat is contained in the cells of the subpericarpal layers; salts and protein are also relatively more abundant in the cells of these layers than in the cells of the central portion of the grain. It is obvious, therefore, that the estimation of any one of these substances would answer the purpose; the one selected must be suited to rapid and accurate estimation, and there must be such a difference in the amount contained in the two kinds of rice as to allow for a reasonable margin of error.

The extraction of fat from rice is a tedious and troublesome process. The difference in the amount of protein contained in unpolished and polished rices is not sufficiently great to allow of a good margin for experimental error, and the ordinary process of protein estimation is not really an estimation of that substance, but of the nitrogenous constituents of the grain which are capable of being converted into ammonia by a process of reduction.

The estimation of one or other of the inorganic constituents is to be preferred on account of the relative ease and accuracy with which the determination can be carried out. We originally employed the phosphorus-content for this purpose, and in all our subsequent experiments and

[1] THE LANCET, 1909, vol. i., p. 451, and THE LANCET, 1910, vol. ii., p. 1755: Studies from the Institute for Medical Research, Nos. 10, 11, and 12.

observations have found it in every way satisfactory as an indicator of the extent to which rice has been polished. A safe or harmless rice—that is, one from which not more than the pericarp or skin has been removed in the process of polishing—will invariably yield more than 0·4 per cent. of phosphorus pentoxide, while a dangerous or harmful rice—that is, one from which the subpericarpal layers have been removed—will yield considerably less than 0·4 per cent.

The standard of 0·4 per cent. of phosphorus pentoxide is therefore not a high one, and the results of its application in practice could not operate unfairly upon anyone. Legislation on the subject of rice in its relationship to beri-beri prevention would of necessity demand the incorporation in the enactment of a standard such as this. As already stated, no great degree of skill or training is required to distinguish polished from unpolished rice by simple inspection, but difference of opinion on this point would inevitably occur, and when referred to a court of law the decision would rest on the results of the chemical examination, just as in the case of other foodstuffs such as milk.

The standard of 0·4 per cent. of phosphorus pentoxide was fixed on the undried material; the percentage of moisture does not vary greatly among different rices, and no apparent advantage would be gained by requiring that the calculation should be based on the dried material.

Dr. Chamberlain and Dr. Vedder have recently advocated the estimation of potassium as suitable for standardisation purposes. We have had no practical experience of that estimation, but there is no reason why it should not serve the purpose of an indicator quite as well as phosphorus pentoxide, save for the disadvantage which would arise from a lack of uniformity in the standard or indicator employed.

In recommending the adoption of phosphorus estimations for purposes of standardisation, it should be clearly understood that we do not thereby subscribe to the view that a deficiency of phosphorus in organic combination explains the production of beri-beri by the consumption of polished rice; all the evidence obtained by us is opposed to that view.

The ravages of beri-beri always have been, and always will be, greatest among the labouring classes, who prefer polished rice, and whose financial position is subject to fluctuations brought about by economic conditions over which science and medicine have no direct control. So long as these people are in regular employment and in receipt of good wages they can afford to supplement their rice ration with other articles of diet, and in this way prevent the occurrence of beri-beri. But when adverse conditions prevail their dietary becomes almost wholly a rice one, and soon afterwards beri-beri makes its appearance among them.

The use of unpolished rice at all times by these people would prevent the disease occurring among them, but this desirable result will be achieved with difficulty, because to those who have been accustomed to the use of polished rice, unpolished rice has an objectionable appearance. The association of whiteness of foodstuffs with purity has, even in countries other than these, been attended with disadvantageous results. The education of this class of people to the advantages to be derived from the use of unpolished rice must be a slow process, but it is a moot point whether, on the whole, this plan might not prove to be the most successful. Already the educated Chinese employers of labour in the Malay Peninsula have shown an active interest in the dissemination of information in regard to the matter.

Undue haste in the application of the results of scientific research to practical and actual conditions has so often in the past been attended by unsatisfactory and even disastrous results, that anything in the nature of sumptuary legislation should be introduced only after grave consideration. It has been proposed to make the use of unpolished rice compulsory by legislation. With this object in view it has been suggested that the importation of polished rice should be prohibited, but despotic legislation of this kind would be dangerous, impolitic, and in certain places a serious menace to trade.

Another proposal has been to tax polished rice. Such a tax to be in any way effective would require to be a heavy one and would be most troublesome to apply. If some form of legislation be essential, then in the conditions in which we find ourselves in the Malay Peninsula a tax upon polished rice at the point of distribution appears to offer some advantages. To accomplish this it has been proposed to license dealers in polished rice, but it is doubtful if even this method in actual practice would yield results commensurate with the trouble entailed in its application.

It is necessary to emphasise the fact that a harmless rice can be converted into a harmful one by an unsatisfactory process of cooking, and energetic action is required in order to secure the cooking of rice in ordinary pots and to do away with all apparatus in which the rice is cooked by steam under pressure.

B. The Cure of Beri-Beri.

Political, commercial, and other difficulties hinder the application of preventive measures, so that even in the most favourable circumstances cases of the disease must continue to occur.

In 1911 there were admitted into the Government hospitals of the Federated Malay States 5340 cases of beri-beri. These cases are almost wholly confined to the Chinese, of whom, according to the census of 1911, there are 433,244. No estimate is possible of the cases which did not seek treatment in Government hospitals, but the available information shows that the incidence of this preventable disease was not less than 12·3 per 1000.

It was therefore desirable to determine if a remedial agent could be prepared from polishings. As collected in the rice-mills polishings are mixed with dust and adventitious substances. The mixture does not look palatable either as a gruel or as an emulsion, and we estimate that an adult accustomed to the use of polished rice would require not less than 1·75 ounces of polishings daily; in this form there would be involved the administration of a quantity of substances unnecessary and perhaps undesirable for a sufferer from beri-beri. It appeared possible that if the active substances could be separated from the mixture and given in a readily available form, an agent might be obtained which would be of value in the treatment of patients suffering from beri-beri.

It by no means follows that that substance the absence of which from a diet gives rise to disease will induce recovery in sufferers from that disease. We had noted beneficial effects produced on animals suffering from polyneuritis by the administration of extracts from polishings, and all the evidence showed that the production of beri-beri in man and of polyneuritis in fowls was not to be explained by any gross nutritive defect in the ordinary sense of the term, but rather by a deficiency of some substance of whose nature and action we were ignorant.

Believing as we do in the clinical and pathological identity of beri-beri and polyneuritis gallinarum, it was decided, in the first instance, to test the value of the remedial agent on fowls suffering from polyneuritis.

Experiments previously recorded have shown that the active substance is soluble in water and in 91 per cent. alcohol. In alcoholic solution it retains its activity unimpaired for months, and the first test was carried out with an alcoholic extract prepared in the following manner:—

1. Sifted polishings were packed in a percolator and the fat extracted by means of petroleum ether.
2. The extracted polishings were freed from ether by exposure to the sun.
3. One part of fat-free polishings was macerated and frequently stirred in 4 parts of 94 per cent. alcohol acidulated with 0·3 per cent. of hydrochloric acid for one week.
4. The mixture was filtered and nearly neutralised with sodium carbonate.
5. The slight precipitate, formed on partial neutralisation, was filtered off and rejected. The filtrate was concentrated under reduced pressure (temperature 60° C.) to a small volume.
6. A little water was added to the residue, and the fat, present in small amount, removed by means of petroleum ether.
7. The fat-free fluid was concentrated nearly to dryness at a temperature not exceeding 60° C., and the residue dissolved in water and alcohol in such proportion that the final product contained 50 per cent. of alcohol, and 1 c.c. of the fluid represented the soluble materials extracted from 10 grammes of fat-free polishings.

Cases of polyneuritis were obtained in the ordinary way by feeding fowls on polished rice, and as soon as an animal showed distinct evidence of the disease it received the remedial agent; throughout the treatment the fowls were fed on the rice the consumption of which had given rise to the disease. As fowls about to develop the disease and fowls with polyneuritis are averse to the consumption of

polished rice, it follows that the test was a severe one. Six cases of polyneuritis (Table I.) were treated with the extract.

No. 1 received twice daily 0·5 c.c. of the extract. A day or two after treatment was commenced the animal regained the power to take rice in adequate amounts, and 10 days later its condition was much improved; 17 days later it was practically well again. After this the remedy was given once daily, and 37 days after the commencement of the illness the animal had perfectly recovered. It was killed, and the nerves on examination showed no signs of degeneration.

No. 2 suffered from a severe attack of the disease with marked retraction of the head, and was obviously very ill. It was given twice daily 0·5 c.c. of the extract, but was unable to eat; this was accounted for by the severity of the attack, its inability to move, and the head retraction. A little rice was, therefore, pushed into the crop twice daily. Three days later the animal was sufficiently recovered to eat rice voluntarily; seven days later the animal was much better and eating well, but stood with difficulty. The following morning it was found to be very ill and apparently dying, which it did at 2 P.M. Post mortem nothing of note was observed, but the sciatic nerves showed abundant nerve degeneration.

No. 3 received twice daily 0·5 c.c. of the extract for four days, and subsequently 0·5 c.c. once daily. Sixteen days after the onset of the illness the animal had almost recovered and 16 days later it had completely recovered. It was then killed, and an examination of the sciatic nerves showed no degeneration.

No. 4 received 0·5 c.c. of the remedy once a day. After 36 days it had recovered completely, and four days later it was killed; the sciatic nerves were examined, and no signs of degeneration were observed.

No. 5 received once daily 0·5 c.c. After 36 days' treatment it had apparently completely recovered; four days later it was killed, and a few degenerate fibres were found in the sciatic nerves.

No. 6 received 0·5 c.c. of the extract once daily, and recovery was complete after 40 days.

TABLE I.—*Extract with Acidulated Cold 94 per cent. Alcohol.*

No.	Description.	Weight in grammes at commencement of treatment.	First week.	Second week.	Third week.	Fourth week.	Fifth week.	Sixth week.	Remarks.
1	Spotted cock.	1060	1040	1075	1120	1100	1120	—	Cured after 37 days.
2	White and black spotted cock.	970	850	—	—	—	—	—	Died 11 days after onset of disease.
3	Red cock.	940	1025	1035	1067	1080	—	—	Cured after 32 days.
4	White and black spotted cock.	1365	1470	1480	1470	1460	1450	1565	,, ,, 36 ,,
5	Black and red cock.	1145	1205	1215	1200	1190	1180	1200	,, ,, 36 ,,
6	White and black cock.	1260	1315	1380	1415	1420	1445	1455	,, ,, 40 ,,

The next experiment was carried out to test the prophylactic value of this extract. Eight fowls were fed on polished rice, and received daily 0·5 c.c. of the extract. The experiment extended over five weeks. The fowls were in perfect health at the conclusion of the period, and their weights throughout were equally satisfactory. As a control to this experiment eight fowls on white rice received daily 5 grm. of the same lot of polishings as that from which the extract had been prepared; all of the animals remained healthy.

These experiments demonstrate the value of an extract prepared from polishings as a curative and prophylactic agent.

In the next experiments more thorough exhaustion of the polishings was aimed at. For this purpose one part of fat-free polishings was mixed with four parts of acidulated 94 per cent. alcohol, and the mixture boiled for one hour under a reflux condenser. The mixture was then allowed to stand overnight and in the morning filtered; the filtrate was treated in the manner already described, but the final volume was adjusted so that 1 c.c. represented the material dissolved out from 5 grm. of fat-free polishings and contained 27 per cent. by volume of alcohol. Thus, while increasing the volume of the prophylactic and curative dose the amount of alcohol was not increased. The lower percentage of alcohol was sufficient for purposes of conservation.

Six cases of polyneuritis (Table II.) were treated with this extract, of which each case was given 1 c.c. daily. The fowls continued to receive the polished rice on which they had developed the disease.

TABLE II.—*With 94 per cent. Alcohol Hot Extraction.*

No.	Description.	Weight in grammes at commencement of treatment.	First week.	Second week.	Third week.	Fourth week.	Fifth week.	Sixth week.	Remarks.
1	Yellow cock.	1200	1225	1300	1315	1350	1425	—	Cured after 34 days.
2	Brown and black cock.	845	920	945	890	910	920	—	,, ,, 35 ,,
3	Yellow cock.	670	670	680	710	700	730	700	,, ,, 48 ,,
4	White and black cock.	840	885	880	870	870	870	—	,, ,, 31 ,,
5	Black and white spotted cock.	840	885	895	915	845	780	—	,, ,, 30 ,,
6	Yellow cock.	990	980	1025	1005	995	1070	1125	,, ,, 44 ,,

Nos. 1, 2, 4, and 5 were completely cured in five weeks. No. 6 was cured in 44 days. No. 3 suffered from a severe attack, and was cured after 48 days' treatment. The results are, therefore, quite as favourable as those obtained with the first extract. The extracts prepared by these processes contain less of the non-essential material than can be obtained by any of the other processes we have employed.

Experiments are now in progress with a view to determining if the remedy can be prepared by a less expensive process, as by employing weaker alcohols or water. But the less alcohol contained in the menstruum the more saccharine material passes into solution. Whether or not the presence of this substance is disadvantageous we have not yet been able to determine. A watery extract resembling malt extract in appearance and consistence might prove valuable both from the curative and nutritive standpoints. For those cases of beri-beri with gastric disturbances it would be desirable to employ an extract containing a minimum of non-essential substances.

By either of the methods described an effective liquid extract can be prepared of which a dessert-spoonful (ʒii.) represents the material obtained from two ounces of fat-free polishings, the daily dose for an adult suffering from beri-beri. On account of various difficulties it has not yet been possible to prepare this remedial agent on a sufficiently large scale to enable trials to be carried out on the human disease, but these will be carried out in due course.

Among the many sufferers from the disease there is in all probability a proportion in whom regeneration of the nerves is impossible, but for the others a remedy is furnished which should prove of value in their treatment. Rapid curative effects must not be anticipated, as extensively degenerated nerves require time for their regeneration; but patients placed under favourable conditions and receiving daily after food a dose of this extract will have their prospects of recovery enhanced and their period of invalidism lessened.

LITERARY INTELLIGENCE.—Messrs. J. and A. Churchill announce the issue of the following new works:—"Alcoholism, Its Clinical Aspects and Treatment," by Dr. Francis Hare. "Fatty Foods, their Practical Examination: A Handbook for the Use of Analytical and Technical Chemists," by E. R. Bolton and C. Revis. With 36 illustrations in the text and 25 original photo-micrographs comprising 6 plates. "The Preparation of Organic Compounds," by E. de Barry Barnett. With 50 illustrations. "Elementary Clinical Pathology for Nurses," by Richard Weiss, Ph.D., F.C.S. With 6 illustrations.—Messrs. J. Whitaker and Sons, publishers of the universally known Whitaker's Almanac, announce that early in December they will publish (about 700 pages, price 2*s.*, cloth) an international edition of this indispensable work of reference, in which is to be given a graphic and succinct account of every country in the world with such a mass of detail in a handy and convenient form as has never before been presented in a single volume.

TEMPORARY PARTIAL HEART-BLOCK
OCCURRING AS A SEQUEL TO ACUTE PNEUMONIA.

BY ANDREW L. DYKES, M.D. EDIN.,
LATE OPHTHALMIC HOUSE SURGEON AND ASSISTANT RESIDENT MEDICAL OFFICER, SHEFFIELD ROYAL INFIRMARY.

DEPRESSION of conductivity of the auriculo-ventricular bundle, produced by chronic interstitial changes in the heart, has often been recorded. As a result of acute disease, however, it appears to be rare. It has been observed in cases of influenza and acute rheumatism, but I have been unable to find any reference to this condition being associated with acute pneumonia. The details of the following case may therefore be of interest.

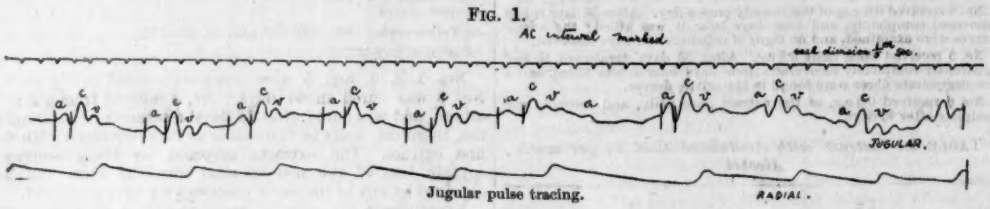
The patient, a young man, aged 23, was admitted to the Sheffield Royal Infirmary suffering from acute lobar pneumonia. He was well developed and had had no previous illness. The left lower lobe alone was affected, and on examination the other systems appeared to be healthy. The disease ran the usual course, the crisis occurring on the seventh day, after which improvement commenced. During the febrile stage there were no unusual signs or symptoms. The pulse-rate at that time never exceeded 108 beats per minute, and was quite regular. The sputum, which was scanty, was rust-coloured and contained pneumococci. After the crisis the pulse, as is usual in the disease, slowed down, and on the following day was 80 per minute and regular in force and frequency. It continued so for about a week, at the end of which time it was noticed that, although still regular in force, there was some irregularity in the frequency of the beats. Long pauses occurred as if a beat had been missed. Sometimes several of these beats occurred in succession, resulting in a reduction of the pulse-rate to 50 per minute. More commonly, however, a pause occurred after four or five regular beats. The type of irregularity was fairly constant. The pauses never at any time appeared longer than would be accounted for by one missed beat, and, as a rule, one long beat would follow three, four, five, or six shorter and regular ones. This state of matters continued till about four weeks after the crisis, when the pulse again became perfectly regular in rate and rhythm, and remained so while under observation during the following month.

The pulse was thus irregular for a period of three weeks, commencing to be so a week after the crisis. The irregularity was usually more marked in the evening, and appeared to give the patient no discomfort. Examination of the heart did not at any time reveal any physical signs of disease. The accompanying jugular pulse tracings give an explanation of the condition. It is seen that the auricles are beating regularly. During the long pauses an auricular wave occurs which is not followed by a carotid wave. In the first tracing the *a.-c.* interval is seen to gradually lengthen until a missed beat occurs. Following the pause the *a.-c.* interval is seen to be about normal (one-fifth of a second). The missed beat had evidently given the auriculo-ventricular bundle a rest which restored its conductive power. In the second tracing the heart-block is seen to be more marked. Every third auricular contraction fails to be followed by a ventricular one.

The patient made a perfect recovery, and when discharged the pulse had been regular for four weeks, and jugular tracings showed a constant *a.-c.* interval of less than one-fifth of a second. While an out-patient during the following three months no recurrence of the irregularity was noticed.

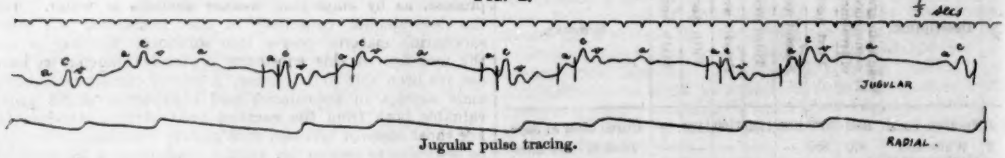
During his illness the patient did not receive any drug of the digitalis series. Administration of these drugs has been observed to produce a condition very similar to that described. The depression of conductivity must have been due to the toxins in some way affecting the auriculo-ventricular bundle, and producing a condition which was evidently quite recovered from. That the grave sign of heart-block should follow a comparatively slight attack of pneumonia, should be unaccompanied by subjective signs, and be followed by complete recovery is interesting. The case illustrates the value of a jugular pulse record, without which one could not with certainty have diagnosed the nature of the irregularity.

FIG. 1.



Jugular pulse tracing.

FIG. 2.



Jugular pulse tracing.

The patient was under the care of Dr. W. S. Porter, to whom I am indebted for permission to publish my notes.
Plaistow Hospital, E.

SPINAL ANALGESIA.
REPORT ON 400 OPERATIONS AT THE MILITARY HOSPITAL, ALDERSHOT.

BY J. W. H. HOUGHTON, M.B., B.CH. DUB., D.P.H.,
MAJOR, ROYAL ARMY MEDICAL CORPS.

SINCE the introduction of spinal analgesia into this country, following the publication of Mr. A. E. Barker's paper,[1] the use of this method for the induction of anæsthesia has rapidly extended. There appears, however, to be still some diversity of opinion among surgeons as to the drug most suitable for this purpose, as well as some doubt as to the range of applicability of the method. It may be useful, therefore, to compare the following table of cases, where the drug used has been the same in every case, and in which all were injected (with few exceptions) by the same operator using the same technique.

The choice of a drug for injection into the lumbar sac has gradually been narrowed to one of three substances—namely, stovaine, tropacocaine, and novocaine. Having reported previously[2] my experiences with these drugs, it is only necessary to repeat here that the 5 per cent. solution of stovaine and glucose, as formulated by Mr. Barker, has given the most consistent and reliable results. This conclusion is well borne out by the results of these 400 cases, in all of which this solution was used, during the past two years in the Military Hospital, Aldershot.

[1] Brit. Med. Jour., March 23rd, 1907.
[2] Royal Army Medical Corps Journal, August, 1908, and October, 1909.

The classification of the cases is given in the accompanying table :—

Abdominal Operations (212 Cases).

Herniotomy	111	Intestinal anastomosis	2
Appendicitis, acute	44	Other laparotomies	7
Appendicectomy à *froid* ...	44	Operations on kidney	1
Gastro-enterostomy	2	Resection of ribs, empyema ...	1

Non-abdominal Operations (188 Cases).

Piles (Whitehead) and fistulæ ...	45	Wiring fractured patellæ ...	5
Pubis and genitalia	65	Internal semilunar cartilage of knee	20
Reduction of dislocated hip ...	1	Other operations on lower limbs	49
Amputations—thigh, leg, foot	3		

Failures to enter dural sac or induce analgesia ... 0

There are one or two points in connexion with this table which call for remark. There was in this series no case of failure to enter and inject the spinal sac. There was no case where injection was not followed by adequate analgesia. There was no case which gave cause for any anxiety as to the safety of this method. The patients were mostly young soldiers, and I had the advantage of three years' previous experience with this procedure both in London and Africa.

There were only two cases in this series where a general anæsthetic was employed to supplement the spinal injection. The first was a patient very debilitated by tuberculosis who required amputation of the femur for a tuberculous knee. This man was given chloroform before entering the operating theatre, as he was in too great pain to be removed otherwise. While under the general anæsthetic 5 cgm. of stovaine were injected into his lumbar sac for the purpose of minimising the shock of the amputation. The influence of stovaine in diminishing shock has so recently been reported on by the Arris and Gale lecturers[3] that it is only necessary to state here that my clinical experience leaves me in complete agreement with their findings.

The other man who was given chloroform was a case where a ruptured appendix was suspected. He was given 5 cgm. of stovaine and the abdomen opened ; a perforated duodenal ulcer and peritonitis were found, and the ensuing operation of gastro-jejunostomy (which occupied 100 minutes) was completed under chloroform.

There is another advantage of this stovaine-glucose solution which apparently has not been fully realised, though pointed out in Mr. Barker's papers on many occasions. There have been several papers published recently in which the workers in this field do not seem to be confident of the height or duration of the analgesia that they may expect to obtain after a given injection, but these can be readily estimated beforehand with comparative certainty by the use of this injection compound of a higher specific gravity than the spinal fluid. The solution containing 5 per cent. stovaine and 5 per cent. glucose is heavier than the cerebro-spinal fluid ; it has a specific gravity 1023, the specific gravity of cerebro-spinal fluid being 1007. This means that, by slightly elevating the pelvis of the patient before injection in the lateral position, the solution can be localised to any given segment of the spinal cord, as the solution will flow to the most dependent part of the curve of the spinal canal and the height of the analgesia can thus be determined before any injection is given.

As regards the duration of the analgesia, I have found that, with trifling variations, an injection of 0·9 c.c. of this solution, which contains 4½ cgm. of stovaine, maintains analgesia to the level of the umbilicus for 45 minutes. This gives ample time for operations on herniæ and appendicitis. The amount of this solution that may be used can be increased, and in one case in this series the injection of 1·2 c.c. (or 6 cgm.) of stovaine was ample for the performance of the operation of gastro-jejunostomy. This was a severe test of the method, and its success a striking demonstration of its potentialities, as complete analgesia was maintained at the level of the xiphisternum for the 40 minutes required to complete the operation.

As regards the after-effects of injection in these series they were fairly constant. When the analgesia extended above the umbilicus, in 24 per cent. of the cases slight faintness or nausea came on from 10 to 15 minutes after injection. This passed off in 10 minutes, when the patients became drowsy and comfortable. On returning to the ward 7 per cent. vomited ; amongst these were several cases of abdominal trouble who had been vomiting before operation. Headache was reported in 40 per cent. of the cases. It was usually mild and seldom interfered with the patients' sleep. In 35 per cent. of the cases injected there was no discomfort of any kind either during or after operation, and in the words of the theatre attendant, "they did not turn a hair."

Whether spinal analgesia or some form of inhalation anæsthesia is preferable for routine use is a question for the decision of the individual surgeon. In the hands of a careful administrator, and in cases where analgesia is neither required nor obtained above the nipple line, the use of this stovaine-glucose solution is at least as safe as that of chloroform. Its field of usefulness is, therefore, restricted when compared with inhalation anæsthesia. On the other hand, life-saving operations can be performed under spinal analgesia in cases where chloroform or ether is inadmissible, such, e.g., as amputation of the leg for diabetic gangrene or in a patient with advanced cardiac disease. With stovaine analgesia there is an absence of shock during operation which is not obtained under inhalation or any other form of anæsthesia. Also, the muscular relaxation is so complete that much less time is required to complete an operation than if chloroform were used.

For those who can always command the services of a good anæsthetist the choice of an anæsthetic is not a pressing matter, but for those who work abroad and have to operate short-handed, or perhaps even single-handed, a knowledge of spinal analgesia is a most valuable asset. To obtain the best results with this method the operator must have experience of the technique. It is among the first 50 or 100 cases injected that incomplete analgesia or other troubles are likely to occur, and to emphasise this fact I thought it was worth recording this series.

Aldershot.

[3] Brit. Med. Jour., April 27th, 1912.

OVARIOTOMY ABOUT FORTY YEARS AFTER A DISCHARGE OF FŒTAL BONES THROUGH THE RECTUM; RECOVERY.

DEATH A YEAR LATER AT THE AGE OF 78 FROM STRICTURES OF THE SMALL INTESTINE AND OF THE COMMON BILE-DUCT.

BY JOHN D. MALCOLM, M.B., C.M. EDIN., F.R.C.S. EDIN.,

SURGEON TO THE SAMARITAN FREE HOSPITAL.

I AM indebted to Mr. J. Kingston Barton for the clinical notes and the post-mortem report of the case recorded below.

The patient, whose age was 77 at the date of the ovariotomy, was the mother of four children. She stated that about 40 years earlier she was very ill from obstruction of the bowels, and that the bones of a fœtus were discharged through the anus at that time. She recovered completely. Towards the end of the child-bearing period three or four miscarriages occurred, and were attributed to the presence of a tumour diagnosed as a fibromyoma of the uterus. In 1897 Whitehead's operation for hæmorrhoids was performed and a tumour attached to the left side of the uterus was recognised during convalescence. In 1903 the patient had an attack of inflammation in the region of the vermiform appendix. She had a good deal of bronchial catarrh from time to time and some rheumatic pains, but otherwise led an active life and required little medical help until 1910 when the abdomen gradually became large, and on July 9th Mr. Barton's assistance was sought on account of bowel difficulties. Enemas and calomel gave relief, but after a week a large quantity of fluid in the peritoneal cavity showed no tendency to diminish, and floating in this there was a hard mass attached to the left side of the uterus. In consultation it was agreed that the tumour was solid and that probably it arose from the ovary. Although the patient was somewhat feeble it was decided to open the abdomen and remove the tumour if it was of ovarian origin and if the difficulties did not seem too great.

At the operation after much fluid had escaped a pale, solid tumour of the left ovary, measuring about 5 inches in its longest diameter, was found adherent to the left side of

the uterus. The adhesions were easily separated and the tumour was removed by ligaturing and dividing a medium-sized pedicle which contained the Fallopian tube and which was not twisted. The other tube and ovary were healthy. The intestines were not distended, and nothing further abnormal was noted except that the uterus was bulky and fixed by adhesions. Mr. S. G. Shattock kindly examined the tumour, which was solid but becoming soft in places. No malignant structure was found in it.

The patient bore the operation well and made a good recovery. After the first few days of convalescence there was considerable intestinal distension, the persistence of which was unusual, and especially so when it was considered that the abdomen remained quite soft and there was no difficulty in getting the bowels to act. Two months after the operation the distension had very much diminished, the bowels gave no trouble, there was no sign of ascites, and the patient walked out every fine day. The conditions continued good during about eight and a half months. The patient then had difficulty in getting the bowels to move, and complained of occasional squirmy pains in the abdomen, which after a time became almost constant. The fæces changed to a silver-grey colour, but there was no jaundice. Fluid was again found in the peritoneal cavity. The patient loathed food, but she never vomited, and small doses of castor-oil kept the bowels open. There was some blood in the urine for a few days before death, which occurred 16 days less than a year after the tumour was removed.

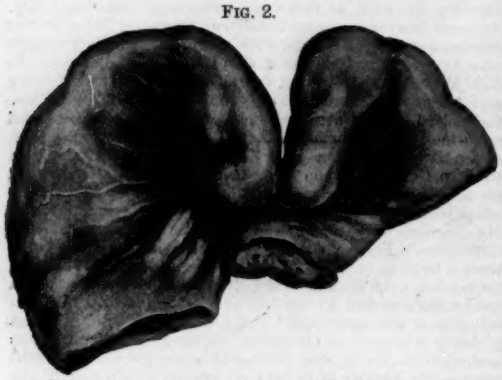
Mr. Barton conducted the necropsy. The peritoneal sac contained about six quarts of ascitic fluid. The intestinal tract generally was small with places here and there dilated. Eighteen inches above the ileo-cæcal valve the calibre of the gut was narrowed by a deep sulcus on one side, and there was an apparently permanent angular bend of the bowel. The condition is well shown in Fig. 1. A

FIG. 1.

Sketch of intestine about 18 inches above the ileo-cæcal valve.

more decided obstruction of the jejunum was found about 14 inches below the duodenum. The intestine here looked as if it had been surrounded by a tightly tied ligature, and the part above the constriction was dilated as shown in Fig. 2. Here also the bowel was acutely bent and it was

FIG. 2.



Sketch of intestine about 14 inches below the duodenum, showing marked dilatation above the stricture.

bound down to the mesentery by firm adhesions. There was enough, or nearly enough, room for an orange pip to pass, but five of these had collected above this constriction. The two pieces of intestine shown in the illustrations have been presented to the Museum of the Royal College of Surgeons of England, and Mr. Shattock informs me that there is no malignant structure in the constricted parts. The wall of all the intestine, large and small, was hypertrophied and for the most part contracted. The vermiform appendix was normal in appearance. The stomach was hypertrophied but dilated. The pylorus was very hard as if in the early stage of malignant disease, but it was simply hypertrophied and surrounded by a mass of inflammatory adhesion which involved the bile ducts and the head of the pancreas. The latter gland was hard but small. The spleen was small. The liver was large and irregular in outline. The gall-bladder was distended to the size of a Jersey pear, being abnormally adherent to the liver and full of black bile. There was no gall-stone, but the common duct was nearly occluded, for there was only the slightest tinge of bile colour in the contents of the small intestine. The left kidney was large and succulent, and had a small semi-purulent cystic cavity opening into its pelvis which accounted for the blood in the urine at the end of the patient's life. The right kidney was large, dark-coloured, and succulent, and its pelvis was considerably dilated as if from pressure upon the ureter. The capsules of the kidneys were easily removed. The uterus was about twice the size of a functionally-active womb. On section it was very hard, but there was no sign of malignancy or of fibromyoma in it. It was fixed by firm adhesions all round the floor of the pelvis and especially to the rectum, which was also firmly fixed to the vagina.

Some conclusions regarding the pathology of this case may be arrived at, although the facts recorded cannot be dogmatically arranged in their order of sequence or of dependence upon each other. A solid ovarian tumour not infrequently causes ascites, but it seldom causes adhesions unless its pedicle is twisted or the growth is otherwise deprived of its blood-supply, and in the case under consideration it is exceedingly unlikely that the tumour would have caused the widespread inflammation that evidently had existed before the ovariotomy was performed. The operation was so simple that the intestinal constrictions afterwards discovered could not be attributed to it. On the other hand, the development of an extra-uterine fœtation and a discharge of fœtal bones through the rectum could not take place without much inflammatory change. In this case the inflammation involved the tumour, which therefore appeared to have existed when the ectopic gestation developed. There is no doubt that it did exist and was so closely adherent to the uterus that it was mistaken for a fibroid tumour when the patient was still in the child-bearing period. There must have been numerous peritoneal adhesions after the discharge of the fœtal bones took place, and it seems likely that the constrictions of the small intestine were caused by bands of adhesion which set up a contracting process in the bowel, and that the narrowing remained and perhaps became greater although the bands were almost completely absorbed.

The fact that the intestinal constrictions were not observed at the operation is no evidence that they did not exist then. In removing an ovarian tumour from a patient who has reached the age of 77, the surgeon should do as little as possible beyond the necessary manipulations, and as the most serious obstruction was in the upper abdomen, it was out of the way unless a special search had been made. The one-sided slight constriction near the lower end of the small intestine might very easily be overlooked. The widespread inflammation around the pylorus may have been due to intraperitoneal causes alone, but it seems likely that the process was intensified by some irritation of the mucous membrane, and it is possible that the conditions arose altogether from within the hollow viscera. The obstructions further down the alimentary canal would tend to induce an irritation of the mucous membrane of the pylorus and duodenum. It would appear that the shutting off of the common bile-duct and the consequent interference with digestion were important factors amongst the causes of death. It is certain that the intestinal obstruction did not become complete, and therefore was not the direct cause of death, for the patient never vomited.

If the view I have expressed is correct, the length of time between the onset of the cause of the intestinal contraction and the patient's death is very remarkable. The narrow lumen of the upper stricture and the peritoneal inflammation which had at some time existed around it were

dangerous conditions, and the safety of the patient was due to the liquid nature of the normal contents of this part of the bowel and to a compensatory hypertrophy of the intestinal wall. This record shows the great value of post-mortem examinations if a correct knowledge of pathology is to be obtained. It is quite certain that the conditions found would not have been even guessed at if there had been no necropsy. Old age or cancer or some recent adhesion due to the operation were the most likely causes of the symptoms to be thought of, and if the intestine had become obstructed at either of the narrow places and death had followed within a week of the removal of the ovarian tumour, which might very easily have happened, intestinal paralysis or sepsis would probably have been regarded as the cause of death. The intestinal changes in this case would seem to be rare, especially if, as has been suggested, they developed from an inflammation which began some forty years before the patient's death. It is possible, however, that more frequent post-mortem examinations would reveal a considerable number of cases with conditions similar in character to those above described.

Wimpole-street, W.

THE LIFE CYCLE OF THE ORGANISM OF SYPHILIS.

BY J. E. R. McDONAGH, F.R.C.S. ENG.,

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PROBABLY no discovery of an organism was more readily accepted than that of the spirochæta pallida made by Schaudinn and Hoffmann in 1905. Those who laboured to find the cause of syphilis were legion, and prior to the birth of the spirochæta pallida, the research which received most attention was that of Siegel with his cytorrhyctes luis. So firm has been the belief in the spirochæta pallida, that that organism is taken for granted as being the sole agent of everything syphilitic. Now let us, for a moment, ask ourselves two questions: 1. Why is the incubation period of syphilis so long? 2. Why do not one or two injections of salvarsan cure every case?

If syphilis is conveyed by the passage of spirochætæ from one person to another, ought not the initial lesion to begin to show itself two or three days after intercourse, as is more or less the rule with bacterial infections—viz., ulcus molle, gonorrhœa, diphtheria, &c.? The diseases which have a long incubation period are nearly all due to protozoa; the incubation period is long because the infective organism has to go through a cycle of changes before it can give rise to symptoms. Since the spirochæta pallida is a protozoon—an assumption which one may safely make, owing to its rapid destruction under salvarsan—is it not possible that it is only one of the phases in the life cycle of the syphilitic parasite? The action salvarsan has on spirochætæ in general is phenomenal. No spirochætæ are found in films made from the blood or discharge from a chancre after 48 hours following a single injection. If the action is so marked even on the surface of a lesion, how much more pronounced must it be in the deeper parts; in fact, all the spirochætæ must be, and no doubt are, killed by the first or second injection. In spite of this, recurrences occur again and again. In relapsing fever, for instance, and in yaws, one or two injections of salvarsan at the most are all that are required to cure every case. On the other hand, in sleeping sickness the trypanosomes vanish almost immediately after an injection, but they soon return into the general blood stream. Trypanosomiasis and syphilis are, therefore, not unlike, and the frequent recurrence of symptoms met with in both diseases is no doubt dependent on the cycle which the parasite goes through in the body of the host.

Another little point! All are agreed that it is fearfully difficult—is it possible at all?—to find the spirochæta pallida in a gumma. In the tertiary stage of syphilis, then, the number of spirochætæ must be considerably less than in the secondary; but which stage of the disease is the harder to cure?

These are a few of the points which have puzzled me so much of late and have stimulated me to inquire a little deeper into the life history of the spirochæta pallida, since I thought it was quite possible that the syphilitic organism went through a series of changes common to protozoa. I started off with the idea that the spirochæta pallida was the male gamete of some unknown protozoon. The reason for thinking that it was an end phase of some cycle was due to the fact that I had never seen a spirochæta pallida divide. If all syphilitic lesions are due to the spirochæta pallida and the infection is a direct one of that body from one person to another, it is surely odd that we do not see division in every film we look at. This point in itself must suggest that the spirochæta pallida is not to blame for all. It is doubtful whether the spirochæta pallida divides at all. Has it any need to? In my opinion, no. The variation in the sizes of the different organisms is probably dependent upon development, the commencement being an undifferentiated coil. This coil breaks up into spirochætæ which are short, thick, and vary from being almost straight to slightly twisted; then the spirochæta becomes fine and evenly coiled but short; and, finally, one gets a perfect spirochæta pallida with about 15 coils. All variations in the number of coils from about 9 to 15 or more are found.

It is not uncommon to find a spirochæta with a bulbous extremity at one or both ends, or even in the centre; opinions differ as to the nature of the swelling. Some observers see in it the spore stage of the spirochæta, and they assert that the swellings are formed when the spirochæta is in the act of dying, while other observers hold that they play some part in the multiplication of the organisms. I have watched specimens alive for hours by the dark ground illumination method, and I cannot help thinking that the swellings which are highly refractile are granules from the leucocytes which have been attracted by the spirochætæ. The granules have their origin in the leucocytes, leave them and float about in the plasma; they show marked Brownian movement, and can therefore wander about easily. I have seen these bright bodies attach themselves to the spirochætæ, and when they do so along the length of the organism and not at its extremities, it appears as if the granule were lying on the spirochæta rather than in the middle or body of the parasite.

It has been mooted for some time past that the spirochæta pallida had a resting stage; in fact, Schaudinn was at work on this very point just prior to his untimely death. Prowazek was under the impression that the spirochæta pallida rolled up into a ball. Similar circular bodies were also found by Hoffmann in the spleen of a congenital syphilitic, and intermediate stages in unrolling and rolling up were described by him. The resting stage, as just described, was held responsible for the long incubation period of syphilis. Kryzstalowicz and Siedlechi described a sexual development in that short, thick nucleated bodies, which they looked upon as macrogametes, gave rise by a process of division to microgametes; but these authors afterwards altered their views.

For my research I cut sections of chancres, lymphatic glands, and various forms of syphilitic skin lesions, and examined films obtained from their juice, both *in vivo* by the borax methylene blue film-method and by fixed specimens. I paid most attention to the lymphatic glands, as I thought the cycle was more likely to take place there than anywhere else, owing to the fact that, in spite of vigorous syphilitic treatment, the adenitis takes months to subside. I examined 17 lymphatic glands, both before and after salvarsan; 10 chancres in various stages from an early erosion to the slight induration left by a healed primary sore; and over 20 various skin lesions both before and after salvarsan. For controls I examined four lymphatic glands enlarged by gonorrhœa, three enlarged by soft sores, three normal glands and various glands enlarged as a result of tuberculosis, lymphadenoma, and malignant disease. Also five soft sores and skin lesions consisting of a plasmoma, or granuloma—viz., lupus, sporotrichosis, &c. In every instance in the syphilitic group, and in no instance in the control group, did I find any of the bodies which I am about to describe. As these bodies were found exclusively in syphilitic tissue, I venture to suggest that they may be phases in the cycle of the syphilitic organism. These bodies I have seen in different films, and the interpretation I put on them is the one that appears to me to be the most likely. Not being a protozoologist, this work has been extremely difficult, and it is more than probable that my interpretation is incorrect; but nevertheless the bodies seen are constant, they are of diagnostic value, and they have not been described before.

The commencement of the cycle is with a sporozoite or

infective granule. By means of its progression, since it is motile (I think it has flagellæ), the sporozoite reaches a large mononuclear cell and enters. It then becomes motionless, grows bigger, and develops a distinct mantle of protoplasm around itself. The development goes on within and at the expense of the protoplasm of the mononuclear cell, the nucleus of the cell always remaining intact. The degenerated protoplasm forms an envelope around the sporozoite, which has to be gradually increased in size according to the growth of the parasite. The sporozoite then divides.

As far as I can make out each half forms a large non-granular staining mass. This mass, on the one hand, appears to become vacuolated and transformed into an irregular coil; and, on the other hand, to leave the cell and become extracellular. The coil later is found to be thicker in some parts than others, and the ends seem club-shaped. At the base of the coil, lying just above the nucleus of the cell but in the protoplasm of the mononuclear, are some rod-shaped bodies, which stain better than the strands of the coil. The coil, which now appears to be extra-cellular because the protoplasm of the mononuclear is so degenerated, becomes broken up into irregular, short wavy bodies. From these short, thick, and wavy bodies the delicate, long, and corkscrew-shaped body, the spirochæta pallida, develops. This is the microgamete, or adult male gamete, which has no more necessity to divide than a spermatozoon. In some coils there appear to be circular masses, with spirochætæ coming out of them.

So much for the development of the adult male in the sexual cycle. The female development appears to be quite distinct from the male after a certain point. The other half of the sporozoite mentioned above, and which is now extracellular, becomes crescentic and then spherical. This spherical body is the perfect female or macrogamete and is now ready for fertilisation.

The act of fertilisation I have never seen, but it is highly probable that the spherical body forms a "cone of reception," which is touched by the microgamete; the microgamete must then penetrate the macrogamete until its pronucleus reaches the female pronucleus. The forms met with in the next stage are rather difficult to distinguish from the macrogametocyte. A clear membrane appears over the whole surface of the zygote, and then the sporogony runs its course. The zygote divides into two and again into four; these four masses are the sporoblasts. Each sporoblast then becomes oval in form and goes on dividing to form numerous sporozoites, one of which starts the cycle again. This completes the spore stage, or sporogony. If what I have described is correct the syphilitic parasite belongs to the order sporozoa and to the subclass telosporidia, since the spores are formed at the end of the cycle. An appropriate name for the syphilitic organism would be leucocytozoon syphilis. The infection is probably conveyed by the sporozoite, or, as I have called it, the infective granule, and not by the spirochæta pallida. The bodies visible in the sections are, I think, the sporoblasts and possibly the macrogametocytes. The reason I think some of the bodies are spores is because they persist in spite of treatment with salvarsan. Possibly the recurrent syphilides, meta- and para-syphilis, are due to the presence of these spores, which can *in loco* start a new life cycle.

The bearing this discovery will have upon the prevention and treatment of syphilis cannot be discussed here, as it is far too big a question. From a diagnostic point of view it means a distinct advance, since other stages than the spirochætal can be sought for and found in the secretion from a chancre, because even by means of the dark-ground illumination or the Indian ink method one may fail to find the spirochæta pallida in an undoubted case of syphilis. Examining the material obtained by puncture of an inguinal gland will reveal much in a doubtful case, and finding the spores in sections will at once remove the difficulty of being unable to distinguish one granuloma from another.

For films which are not examined *in vivo* the best method of staining is with Giemsa's stain, and for sections the method of Pappenheim's stain (pyronin and methyl green) as I have elsewhere described.[1] I think it is highly probable that the parasite of sleeping sickness closely resembles in its life-history the parasite of syphilis, and that the bodies figured in Dr. F. W. Mott's paper,[2] which resemble the bodies I have just described, are possibly analogous ones of the trypanosome. For the complete elucidation of the spirochætal coil I must acknowledge my indebtedness to Mr. E. H. Ross's paper on the Leucocytozoon of the Guinea-pig (Proceedings of the Royal Society, B, vol. lxxxv., 1912).

I wish to thank Dr. C. Hobbs, Mr. S. R. Moolgaſkar, and Dr. R. B. Price, house surgeons at the London Lock Hospitals, for their untiring energies in keeping me supplied with material from January of this year.

Wimpole-street, W.

[1] McDonagh: Ueber einige Transformationsformen der Plasmazellen, Archiv für Dermatologie und Syphilis, Band cix., Heft 3, S. 447.

[2] Brit. Med. Jour., Nov. 9th, 1907.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF SPASMODIC RHINORRHŒA CURED BY IRRIGATION OF THE MAXILLARY ANTRA, WHICH WERE INFECTED BY B. COLI.

BY HAROLD WHALE, M.D. CANTAB., F.R.C.S. ENG.,
ASSISTANT SURGEON TO THE METROPOLITAN EAR, NOSE, AND THROAT HOSPITAL.

THE patient, a healthy athlete aged 25, had been an annual sufferer from "hay fever" for at least four years. His attacks were initiated by most flowering plants; also by grass, dried or fresh; and aggravated by sunlight. In May, 1912, he went to Spain, and while living there, in a country place, his yearly attack began, and continued with such unabated severity that after seven weeks, at the end of June, he was obliged to cut short his affairs and return hurriedly home. Here he was unrelieved by the change to an English town climate, where he stayed two days before seeing me.

The patient gave the very usual history that he was at his worst daily between 9.30 and 11, and that as the day passed the attack abated. Yet, although it was as late as 5.30 P.M. when I saw him, his state was very bad. His conjunctivæ were suffused and markedly epiphoric. During the half-hour that he was with me he sneezed more than 20 times. His nose was swollen and the nostrils incessantly discharged, and the nasal mucosa was so tumid that without cocaine inspection above the inferior turbinates was impossible. In the course of a routine examination I found both maxillary antra dark on transillumination.

Next morning he went into a nursing home, and under cocaine and adrenalin I tapped his antrum in the usual place with a large-sized perforator (Harmer's). Some thin, inoffensive muco-pus was washed out. I used boric lotion, followed by warm sterile normal saline solution. The same procedure was adopted for the other antrum. From each side a swab was taken, and from each of these grew a pure culture of B. coli, which was subsequently used for an autogenous vaccine. For 48 hours he remained in bed, taking full doses of calcium lactate, and using an alkaline nasal douche, and an ointment of cocaine and anæsthesine in his nostrils once daily. Then I again irrigated both antra. After the first washing his trouble so far abated that he told me he only used one handkerchief in the 48 hours. After the second he went home cured. His antra lit up, though not quite brightly, on transillumination; the nasal douche was continued only until the perforation wounds had healed; and the calcium lactate, in smaller doses, for one month. He remained well.

This case seems to me worthy of record on account of two features: first, the rapidity of the cure; and, secondly, the bacteriological finding of B. coli in pure culture.

Harley-street, W.

A CASE OF RUPTURE OF LUNG IN LABOUR.

BY C. WILLETT CUNNINGTON, M.B., B.C. CANTAB.,
CLINICAL ASSISTANT (DISEASES OF WOMEN), GREAT NORTHERN CENTRAL HOSPITAL.

A WOMAN with advanced pulmonary tuberculosis is not likely to become pregnant, but should she do so the straining during the second stage of labour may very possibly lead to rupture of the diseased lung. Such an accident, however, occurring in an apparently healthy woman must, I imagine, be a decided rarity, and for that reason I submit the notes of the following case for publication.

The patient, aged 23 years, was being attended in her first confinement by a midwife. Labour was described by the midwife as natural, and not of a greater duration than 13 hours. During the last half hour of the second stage the pains were said to have been "very severe," and the patient, a big, muscular young woman, strained a great deal. Fifteen minutes before the head was born the patient noticed that her neck was beginning to swell. An hour later, when the nurse was "tidying up" after the end of the third stage, she noticed the patient's face was bloated and discoloured. She then sent for me. On my arrival, two hours after the child's birth, I found the mother presenting a remarkable appearance. The face was extremely bloated and cyanosed, the eyes almost closed up, the lips swollen and blue. On closer examination the œdematous condition was found to extend up to the scalp, all over the neck and front of the thorax, reaching to the insertion of the deltoid muscles on the arms and to the lower ribs. The back was but slightly affected. On palpation the characteristic crackling sensation of "surgical emphysema" betrayed the nature of the swelling. Over the sternum, where it was most marked, one could obtain pitting of an inch in depth. The percussion note was, of course, hyper-resonant, and on auscultation nothing could be heard, either of cardiac or respiratory sounds, owing to the layer of emphysematous tissue covering the chest. The temperature was 101° F., the pulse was 140, very small and weak, and the respirations were 28 and shallow. The patient seemed cheerful and complained of nothing but slight discomfort in breathing.

At first sight I suspected that one of the lungs had ruptured, and the question of pneumothorax occurred to me. On the other hand, it was impossible to obtain any difference in physical signs on the two sides, such as one would expect with pneumothorax. The patient had always enjoyed good health, was not wasted, and had had no cough, from which I concluded there could be no marked pulmonary tuberculosis. During the next few hours the pulse and temperature slowly fell, so that after 12 hours the temperature was normal, the pulse 80, and the respirations 20. Day by day the œdema diminished. A week later the only abnormal sign was a small patch of crepitations over the third left intercostal space close to the sternum. The patient was up and about in the usual time and a year later she appeared to be in robust health. I might add that treatment consisted in "masterly inactivity."

I suppose the most reasonable explanation of the accident would be that somewhere there was an old adhesion between the lung and the pleura, and that a rupture took place at this spot; owing to the adhesions the air escaped into the subcutaneous tissues instead of into the pleural cavity.

Finchley, N.

A CASE OF TRAUMATIC DISLOCATION OF BOTH HIP-JOINTS.

BY ARTHUR F. S. SLADDEN, B.M., B.CH. OXON.,
LATE HOUSE SURGEON, GENERAL HOSPITAL, BIRMINGHAM.

A NOTE on this very rare accident may be worthy of record, and I am indebted to Mr. George Heaton for permission to publish the case.

Early on Oct. 21st, 1911, a man, aged 24 years, was taken to the General Hospital, Birmingham, unable to walk, having been knocked over by a motor-car whilst cycling. From his account of the accident he was knocked off his bicycle, received a blow on the sacral region, and was so pinned beneath the car that it had to be lifted for his removal.

On admission to hospital an hour later he was in great pain and suffering from considerable shock. The fifth rib at the left costo-chondral junction was displaced, and there were several contusions and abrasions on the arms and legs. The main injury, however, was at the hip-joints. The patient was quite unable to walk or move, both legs being held flexed at the hips and knees and immobilised in a position of adduction and inversion. The left leg was the more fully flexed and the left knee rested partly on the right, the right leg being more adducted. Any movement of either limb was very painful and difficult, and no feeling of crepitus was elicited at either hip. Posteriorly, on the right there was "dorsal dislocation," the great trochanter being felt 2½ inches above Nélaton's line and the head of the femur readily palpable under the gluteal muscles. On the left there was "sciatic dislocation," the head of the femur not being felt so readily as on the right side. Subsequently after reducing the right dislocation comparative measurement showed 1½ inches shortening of the left leg. Unfortunately, owing to the early hour, the X ray department was not available, and it was necessary to relieve the patient as soon as possible without waiting for a radiographic record of a clear clinical diagnosis. There was no history of previous lameness or disability at the hip-joint, and a radiograph taken four days after reduction showed perfectly healthy normal acetabula and femora with no indication of fracture or disease of the bones. Under ether anæsthesia the dislocations were reduced by the classical method. The right leg gave very little trouble, but the left was not so easy to reduce, the head of the femur several times slipping round to the thyroid foramen before it was successfully replaced. The two limbs were bound together and a firm binder fixed around the hips.

The patient made a steady recovery without much pain at any time. On the fourth day restricted passive movement was initiated and continued daily, combined with massage of both limbs. On Nov. 20th the patient walked for the first time. He had in the left hip a little pain which a fortnight later had practically disappeared. In February, 1912, the patient was free from all lameness and could even run without difficulty.

St. Bartholomew's Hospital, E.C.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SURGICAL SECTION.

Injuries to the Semilunar Cartilages.

A MEETING of this section was held on Oct. 8th, Mr. G. H. MAKINS, C.B., being in the chair.

Mr. ALBERT J. WALTON read a paper on Injury to the Semilunar Cartilages. He dealt first with the anatomy of the joint, and considered the part which various movements played in the production of injuries of the semilunar cartilages. A consideration of the anatomical factors led him to the following conclusions: 1. There is a tendency to injury or displacement of the semilunar cartilages. 2. This tendency is brought about by full extension and is increased with powerful or excessive extension. 3. The tendency is much more marked at the anterior end of the internal cartilage, because (*a*) being narrower, this portion of the cartilage more readily undergoes changes due to its own elasticity; (*b*) owing to the screw action in full extension the compression force between the femur and tibia is much more marked here than elsewhere; (*c*) the anterior end of the cartilage is unprotected and loosely attached. 4. Either fractures or displacements of this portion of the cartilage may occur and are both easily explainable. 5. There is no evidence of any tendency to fracture or displacement with any movement, provided the joint is not fully extended. He then gave his conclusions as the result of an investigation into 77 cases of injury to the semilunar cartilages which had been treated at the London Hospital. An inquiry into the clinical factors of these cases showed that (1) the lesions present were identical in nature and position with those which can be artificially produced by hyper-extension and its terminal screw action; (2) the history when carefully investigated gave evidence of hyper-extension as a cause; (3) the etiological factors were in favour of the same view. The paper was fully illustrated by diagrams and specimens.

Mr. ALBERT M. MARTIN (Newcastle-on-Tyne) read a paper on a Personal Experience of 449 Cases of Injuries to the Semilunar Cartilage. All the cases had been operated upon during the period 1900–11, and had made good recoveries, and in no case was there any resulting joint infection or any interference with the after stability of the joint. In a few cases complaint was made that the symptoms had not been relieved, otherwise the results were all that could be desired. 282 (62·8 per cent.) occurred among miners while following their employment. This liability of miners to the injury he ascribed to sudden wrenching or twisting while the knees

were in the flexed position. Eighty-one (18 per cent.) occurred while playing football. The internal semilunar cartilage was injured in 92 per cent., the external in 8 per cent. He described the various kinds of injury met with. This might take the form of a simple longitudinal split. In some cases, on opening the joint, the detached portion was seen lying in its normal position, and might be overlooked easily; in others the detached piece was found curled up between the condyles, and practically only attached at its anterior and posterior ends. Sometimes the split was in the posterior part, and could only be demonstrated when the anterior attachment of the cartilage was divided and strongly pulled upon; then the detached portion snapped forward. In another form the tear extended from some point on the free border, across the breadth of the cartilage for a variable distance, and then either forwards or backwards. In another the free border was the part which had been torn, forming a small pedunculated disc with rounded edges. In still another there was a more or less horizontal split through the thickness of the cartilage, the undermost piece being liable to engage between the joint surfaces and so cause symptoms. In a minority the injured cartilage was mutilated beyond recognition. In deciding upon a line of treatment, the question arises as to whether it is necessary for the patient to have a perfectly sound joint or not. If he is engaged in manual labour operation is demanded, in the absence of any contra-indication such as intercurrent disease. This treatment is also necessary for active men and women who are still wishful to spend their leisure in open-air sports. He said he was very sceptical with regard to cure resulting from treatment by prolonged rest, in the case of a primary tear. Where the inability to extend the joint completely persists, operation is certainly required. The optimum time for operation is after the first week or ten days following the accident. He used a transverse incision, and removed not only the detached piece, but endeavoured to ablate the portion still retaining its normal attachment. As regards the after history of the patients, except in a few cases, the joints were as strong as ever.

Mr. W. MCADAM ECCLES pointed out that at St. Bartholomew's Hospital the operations for injuries to the semilunar cartilages showed them to be five times as numerous in males as in females. With regard to the internal cartilage being more frequently damaged than the external, he pointed out that, while the external was more freely moveable in its circumference, it was much more strongly tethered at its extremities. Thus it could move without so much likelihood of being torn. It was almost impossible without exploration to say what was the precise injury the cartilage had received, but in all cases where the signs and symptoms are suggestive the case should be treated as if there had been definite injury. The treatment Mr. Eccles advocated was plaster of Paris over a thick layer of cotton wool applied as soon as possible after the accident and kept on for four weeks, and then massage to the joints and muscles moving it for another four weeks. This might result in union of the torn fragments and restoration of function, but if there is a recurrence of symptoms the joint should be explored, and the damaged cartilage removed. He never sutured it.

Mr. JAMES BERRY also favoured the transverse incision. He had adopted it after seeing Mr. Martin use it, and had found it had great advantages. He thought that celerity at the operation was an important point.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

President's Address.—Exhibition of Cases.

AT the opening meeting of the thirty-first session of this society on Oct. 4th the retiring President, Mr. W. MCADAM ECCLES, took the chair. Before proceeding to the business of the evening the chairman referred to the great loss sustained by the society since its last meeting through the unexpected death of Mr. Leonard Bidwell, a past president of the society, and a vote of condolence with Mrs. Bidwell and family was passed by the members present. Mr. Eccles then inducted the new President, Dr. G. P. SHUTER, and the latter presented the retiring President with the "Keetley Memorial Medal," a medal presented to each retiring president as a memento of his tenure of office, and, speaking on behalf of the members, he hoped Mr. Eccles would look upon it as an acknowledgment in some degree of the great services he had rendered to the society.

Some further business having been transacted, Dr. SHUTER delivered his inaugural address on the "History of Nitrous Oxide Anæsthesia." After some preliminary remarks he traced its history as an anæsthetic through three periods, the first commencing in 1800 with the publication of Davy's researches and ending with its application by Horace Wells to practical use in dentistry in 1844; the second period from that date to its revival in 1864; and the third period from its revival to the present day. Priestley discovered the gas in 1774. Humphry Davy observed all the usual symptoms resulting from its inhalation, and at the age of 22 published his researches. Towards the end of his essay Davy makes this remarkable suggestion, remarkable as showing his power of reasoning and deduction, but more remarkable in that the passage, although it must have been read by thousands, was never acted on: he says, "As nitrous oxide in its extensive operation seems capable of destroying physical pain, it may probably be used with advantage in surgical operations in which no great effusion of blood takes place." Davy was the most popular and eloquent lecturer of his day, at a time when lectures were the fashion and a good lecturer was much sought after. His experiments were repeated by innumerable imitators to such an extent that it was a common event for itinerant showmen to entertain an audience at a country fair by chemical experiments, and one that never failed to cause amusement was the inhalation of "laughing-gas," and in America entertainments called "ether frolics" or "laughing-gas frolics" kept alive the knowledge of the curious action of nitrous oxide and ether. Thus the modern practice of anæsthesia was born. On Dec. 10th, 1844, Dr. Colton, a pupil of Professor Turner, of University College, London, a popular itinerant lecturer on chemistry, went to Hartford, Connecticut, and delivered a lecture on "laughing-gas," and Horace Wells, an enterprising dentist in that town, being much impressed by what he saw and heard, conceived the idea that a tooth might be removed painlessly under its influence. He determined to put the matter to the test without delay, and the next morning invited his friend Dr. Riggs to pull one of his molars after Colton had administered gas. Elated with the success of the experiment, he declared it to be the greatest discovery ever made—a new era in tooth-pulling! Success followed for a time, but soon a demonstration in Boston resulted in a failure, and Wells was treated as a cheat and an impostor. Easily depressed as he had been elated, he never recovered from his disappointment, and after being reduced to want and actual starvation, died, by the irony of fate, under the influence of the anæsthetic introduced by his pupil, partner, and rival, Morton. It would be difficult to picture a more melancholy and pathetic figure than Horace Wells, but this tragedy must not fill our vision to the complete exclusion of the patient work of Colton, who not only inspired Wells with his brilliant discovery, but was responsible for the most practical improvements in its administration, and for its revival in America, France, and England. During the next 20 years little progress was made until, in June, 1863, Colton happened once again to be lecturing in Newhaven, Connecticut, and exhibiting the "laughing-gas" as usual, when Dr. Joseph H. Smith, who practised in the town, obtained his assistance for the extraction of seven teeth in the case of a lady patient in a very delicate state of health to whom he did not wish to give ether. The teeth were extracted without the patient being sensible of any pain, and during the next three months 3929 teeth were extracted without any ill-effects. Colton was now an expert and imparted skill and knowledge to his pupils. In July, 1863, he moved to New York, and in the course of three years administered gas 17,601 times without mishap. By 1868 the use of nitrous oxide was general all over the United States. In July, 1867, Colton journeyed to Paris, where his teaching was received with enthusiasm, and in the following March one of his pupils, Evans, gave a demonstration of the new anæsthetic, as it was called, at the Dental Hospital, Soho-square. Other demonstrations quickly followed, and Paget, who witnessed an exhibition at St. Bartholomew's Hospital, made this wise

and cautious comment: "After seeing Mr. Coleman give nitrous oxide, I cannot doubt its sufficiency for procuring total insensibility to the pain of short operations. The appearance of asphyxia is alarming, but it is so brief that one may believe that even if it were profound it might do no harm. The question of danger, however, can only be decided by the results of some thousands of cases." By August 1st, 1868, it was permanently installed in all the large London hospitals, so that its spread was even more rapid on this side of the Atlantic than the other; in spite of warning notes sounded by some surgeons and physicians, and notwithstanding powerful opposition in certain quarters, the extended use of nitrous oxide for more serious and prolonged operations made uninterrupted progress. Gas was administered to the first dental cases with the same primitive apparatus that was used in laboratory experiments—simply an ox-bladder in which was fixed a wooden tube as a mouth-piece. Anæsthesia was secured by pressing the lips round the wooden tube and holding the nose to compel the patient to breathe to and fro into the bag. When Colton insisted on a plentiful supply of pure gas and introduced his inspiratory and expiratory valves the future of nitrous oxide was assured. Colton discovered the necessity of the complete exclusion of air to procure rapid anæsthesia, and the necessity of correct proportion of air to maintain a quiet anæsthesia for a prolonged operation. He noted, too, that vomiting after mouth operations was frequently due to the blood which had been swallowed. Coleman found that long anæsthesia followed a long induction after removal of the face-piece, and that it was advantageous to give a small quantity of air during induction for this purpose. Clover invented new instruments and made improvements in others which are in use to-day. He also gave directions for preparing patients for operations, he classified the signs of anæsthesia, and he taught how to interpret and make use of them. He shrewdly anticipated nitrous oxide and oxygen anæsthesia by fitting a valve for regulating the percentage of air, and the administration of nitrous oxide was placed within a few months on such a sound footing that little alteration in our methods had been required by later additions to our knowledge. In conclusion Dr. Shuter reviewed the evolution in the preparation and supply of nitrous oxide. At first surgeons and dentists made their own gas; later this was sold by Bell and other chemists in large rubber bags, and when at length the demand was sufficient to make it pay Mr. George Barth solved the difficulty. He was already selling compressed oxygen for medical purposes, and it was a small step to treat nitrous oxide in a similar fashion. Finally, Mr. Orchard supplied liquefied gas under safer conditions. It is of interest to note that Evans was the first to make use of gas in the liquid condition. In June, 1868, he paid a second visit to the Dental Hospital and brought over with him from Paris a quantity of liquid gas in a bronze bottle. It was here he made the further suggestion that the liquid gas might be used for producing local anæsthesia.—A hearty vote of thanks, proposed by Mr. F. SWINFORD EDWARDS and seconded by Mr. RICKARD W. LLOYD, was accorded to Dr. Shuter for his interesting address.

The following cases were shown and discussed:—Dr. LEONARD DOBSON: A case of Angio-neurotic Œdema. Mr. N. BISHOP HARMAN: (1) A case of Senile Cataract followed six days later by Vitreous Hæmorrhage—recovery; and (2) a case of Pneumococcic Hypopyon Ulcer treated with a mixture of pure carbolic acid and camphor (equal parts).

MANCHESTER MEDICAL SOCIETY.

Dysmenorrhœa.—Lacrymation.—Slow Pulse.

A MEETING of this society was held on Oct. 2nd, Dr. E. S. REYNOLDS, the President, being in the chair.

Dr. W. E. FOTHERGILL (Manchester) submitted a way of explaining and arranging the varieties of Dysmenorrhœa which, he said, occurred (*a*) as a complaint of healthy women and (*b*) as a symptom of various abnormal conditions. Women whose reproductive life was perfectly normal could have (1) the sharp pain known as spasmodic dysmenorrhœa; (2) the dull, aching pain known as congestive dysmenorrhœa; or (3), as was often the case, a mixture of the two. Uterine contractions went on throughout reproductive life, but were most active during pregnancy, during parturition, just after parturition, and during menstruation. The contractions of parturition generally entered consciousness in the form of pain and were called "labour pains." Contractions occurring just after labour often entered consciousness as pain, and were called "after pains." Painful contractions during menstruation might well be called "menstrual pains," and recognised as compatible with perfect health, like "labour pains" and "after pains." Pelvic congestion was a normal feature of menstruation. If sufficiently pronounced, congestion was always associated with pain, and in many women the menstrual congestion produced pain without any departure from health. In spasmodic dysmenorrhœa there were two factors—the violence of the uterine contractions and the sensitiveness to pain of the nervous system. In congestive dysmenorrhœa there were also two factors, the degree of pelvic congestion and the sensitiveness of the nervous system. Thus one factor was common to the two conditions, and this explained the fact that many healthy women suffered from a mixture of spasmodic and congestive dysmenorrhœa. For the woman whose brain received into consciousness menstrual contractions in the form of "menstrual pains" would also recognise menstrual congestion as pain. Persons who were specially sensitive to pain were by no means to be confused with neurotics. The latter complained every day of their lives, while the former only complained when in pain, as, for instance, during menstruation. As to the treatment of spasmodic dysmenorrhœa by dilatation of the cervix, the child's head was the best dilator, and there was no use in dilating the cervix for dysmenorrhœa in parous women. This treatment was also quite useless in cases of pure congestive dysmenorrhœa. As a symptom of abnormal pelvic conditions, both spasmodic and congestive dysmenorrhœa were common. This symptom was not much use from the point of view of the diagnostician; its presence had little bearing upon the treatment of the causal condition. It must be relieved by the usual analgesics, as must dysmenorrhœa in healthy subjects.

Mr. A. A. BRADBURNE read a paper on Lacrymation. He referred to the psychical and the physical nature and stated the tracts which the stimulus for tear formation was supposed to follow. The extensive connexion between the lacrymal nerve and the branches of the fifth and seventh was pointed out. Cases were alluded to showing the value of lacrymation as a diagnostic agent other than that of simple obstruction in the tear channels. Mr. Bradburne asked if the source of stimulation in eye-strain could not be found in the nature of the aqueous fluid, and referred to the work of Pfeiffer and Albrecht on the toxicity of urine in cases of *petit mal* and chorea. He briefly mentioned the means of differentiating between lacrymation and epiphora and the treatment of the same. He closed with a warning against the use of probes, and quoted Hirschberg as saying, "These methods never do what they are intended; they only demonstrate what sick people will stand and what the sick body will stand in the way of ill-treatment."

Dr. CHARLES H. MELLAND read a paper on Three Cases of Slow Pulse, illustrated by polygraph tracings, the analysis of which showed that in each case the nature and cause of the slow pulse were different. Only one of the cases (a young man of 22 with a perfectly healthy heart) was a true bradycardia in which all the chambers were beating slowly. His pulse was 40 per minute, and he had a well-marked "h" wave, as in other cases of sinus bradycardia. A second case, with a rate of 36, was one of incomplete heart-block with the ventricles beating only half the rate of the auricles. This was in an elderly man with aortic disease and a history of syphilis, but with none of the syncopal attacks of the complete Stokes-Adams syndrome. The third case was a patient with ulcerative endocarditis with a pulse of 45, whose tracings showed a heart-rate of 90, every alternate beat being a regularly recurring extra systole whose impulse could not be felt at the wrist.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL: UNIVERSITY ENTRANCE SCHOLARSHIPS.—The two University Entrance Scholarships have been awarded as follows: Scholarship of 70 guineas, Rhys Trevor Jones, University College, Cardiff. Scholarship of £50, Tom S. Nelson, University College, Oxford.

Reviews and Notices of Books.

Tropical Medicine and Hygiene. By C. W. DANIELS, M.B. Cantab., M.R.C.P. Lond. Part III.: Diseases due to Bacteria and other Vegetable Parasites, to Dietetic Errors and of Unknown Causation. London: John Bale, Sons, and Danielsson, Limited. 1912. Pp. 250. With illustrations. Price 7*s.* 6*d.* net.

THIS the third and completing volume we are glad to see has at length appeared. The previous two volumes were favourably reviewed in THE LANCET some time ago.

Section I., dealing with the diseases caused by the schizomycetes, opens with the chapter on undulant fever. It is only recently that the true etiology of this disease has been revealed to us by the labours of the officers of the Royal Army Medical Corps, who discovered that goats were the essential carriers of the disease. This discovery has resulted in the abolition of this formerly fruitful source of invalidity from the British Army in Gibraltar and Malta, and when it is considered how for weeks or months the unfortunate patient used to be laid up with this fever it will at once be seen what a debt the British soldier owes to the officers of the medical-military service. The consideration of plague follows. The relation of rats and rat fleas to the disease is succinctly pourtrayed, and a detailed exposition of the methods of prophylaxis, amongst which the Clayton process of sulphur disinfection, so ably advocated by Professor W. J. R. Simpson, receives due notice. In the consideration of pneumonia the author rightly states that in many parts of the tropics it is a common disease. It is, however, more than this as regards its frequency, for, as Dr. Sanders has stated,[1] this disease "increases in frequency uniformly the nearer we approach the tropics—that is to say, the disease is more frequently met with in warm than in cold climates, showing a gradually increasing rate from the pole to the equator." The Punjab and North-West Frontier of India have given many striking examples of this infectious fever.

Section II. is occupied with the consideration of cholera, enteric fever, mixed fevers, dysentery, and tropical diarrhœa. In the remarks on cholera the diagnostic points of the cholera vibrio from those of Deneke, Miller, Flügge, Finkler, and Timothy Lewis are not to be found. There is also no explanation of the symptom of collapse. In the treatment the author would appear to be in favour of astringents and opium for the preliminary diarrhœa. He has, of course, many of the older writers on his side, but the use of opium is not now so prevalent in India as it was formerly. It is somewhat remarkable that Dr. C. Macnamara, a great authority on the disease in India, advocates the giving of opium. He, however, when he went through a severe attack of the disease in Calcutta, took not opium but rhubarb. Colonel Harold Browne's successful treatment with oil of eucalyptus receives no mention, but the most recent researches of Leonard Rogers with his hypertonic saline injections and the exhibition of potassium permanganate are duly placed on record. This method of treatment is certainly by far the most successful yet published, the mortality having been reduced from 60 or 70 per cent. to 30 per cent., and in the late epidemic in Italy to 15 per cent.

In the chapter on enteric fever the discovery of the great part played by carriers is related; this discovery and the resulting methods of prophylaxis have already effected a very large reduction in the incidence of the disease amongst our troops in India. Dysentery is rightly shown to be, not a single disease, as was taught many years ago, but a group of diseases due to various separate organisms with certain symptoms in common. The clinical course and symptoms are very justly given; in the treatment recommended the author has failed to mention the value of cinnamon bark, which has been found to be equally efficacious with, and far more pleasant than, ipecacuanha in many cases. He also states that the latter drug is held of little use in the treatment of bacterial dysentery. This is not the experience of physicians practising in the Punjab, where it is held to be a specific in this form of the disease.

The interesting subjects of sprue and hill diarrhœa are next considered, after which there is an excellent chapter on the general principle of prophylaxis as regards water-borne and intestinal diseases. Space forbids us to enter fully into the remaining subjects embraced by this final volume of Daniels's Treatise. We are glad to see that scurvy is treated as one of the diseases to be met with in the tropics; it is, indeed, a disease to be guarded against, and especially so on the North-West Frontier of India. In one phase of the last Afghan war a frontier regiment was found to be so affected with scurvy that it had to be sent back to India. More, perhaps, might have been said with regard to its causation, as it is not always due to deficiency in diet. A notable instance of this fact occurred in Kasauli some years ago, in which a British regiment, well supplied with fresh vegetables and lime-juice, was attacked with scurvy, which began with the onset of the rains, and only disappeared with their cessation.

[1] American Journal of the Medical Sciences, 1882.

The Blood: A Guide to its Examination and to the Diagnosis and Treatment of its Diseases. By G. LOVELL GULLAND, M.A., B.Sc., M.D. Edin., F.R.C.P. Edin., Physician to the Royal Infirmary and to the Royal Victoria Hospital for Consumption, Edinburgh; and ALEXANDER GOODALL, M.D. Edin., F.R.C.P. Edin., Lecturer on Physiology and on Practical Medicine at Surgeons' Hall, Edinburgh. Illustrated. London and Edinburgh: William Green and Sons. 1912. Pp. 344. Price 15*s.*

THE minute examination of the blood has now assumed such an important place in the clinical study of patients that it is necessary that every student should make himself acquainted with the technique of the principal methods which are employed, and also be able correctly to interpret the results. The practitioner likewise requires a trustworthy practical guide to which he can turn on occasion for the information he requires. The volume now before us fulfils both these wants, for the authors have succeeded in describing the various forms of apparatus employed, together with the manner in which they are used in straightforward terms, so that no difficulty should be found in following their directions. Further, the conclusions to be drawn from the necessary examinations are succinctly and plainly set forth.

Part I. is headed "Methods of Examination of the Blood." The methods described are confined to those that the authors have found essential or useful, so that the reader is able to select a good form of instrument without being unduly confused by detailed discussion of complicated apparatus. In Part II. is given a good description of the formed elements of the blood. An accurate knowledge of the corpuscles of the blood and their numerous varieties is essential. The information on this subject has considerably increased during recent years, and it has been found necessary to introduce many new terms of which an older generation of practitioners would be ignorant. Here, however, these terms are carefully explained, and a close study of the eight chapters devoted to these matters will be amply repaid.

Diseases of the blood, bone marrow, and lymphoid tissues are discussed in Part III. A good account is given of pernicious anæmia, chlorosis, splenic anæmia, leucocythæmia,

lymphadenoma, and other similar morbid conditions. The methods of diagnosis are well and accurately described, and in a manner which will be appreciated both by practitioners and students. Part IV. is devoted to a description of the changes that the blood undergoes in special diseases, prominent among which are the infectious diseases. Finally, in Part V. diseases due to animal parasites are considered. A good description is given of the parasites found in the blood in malaria, and an interesting account will be found of their life-history both in man and in the mosquito.

We have perused this volume with much pleasure and can confidently recommend it to our readers. The illustrations, especially the coloured plates, are beautifully reproduced, and considerably add to the value of the work.

A Practical Text-book of the Diseases of Women. By A. H. N. LEWERS, M.D. Lond., F.R.C.P. Lond. Seventh edition. With 258 illustrations, 13 coloured plates, 5 plates in black and white, and a large number of illustrative cases. London: H. K. Lewis. 1912. Pp. 540. Price 12*s.* 6*d.* net.

Dr. Lewers's "Text-book of the Diseases of Women" has been in use by students for so many years that its merits are well known, and the appearance of a seventh edition shows that it is still appreciated in spite of the many rivals which have been published since the date of its first appearance. In the present edition the whole has been revised, especially those sections dealing with cancer and fibromyomata of the uterus. The book still retains its essentially clinical and practical character, and in view of the very large experience of the author it has a peculiar value in this respect. The records of the cases given are all well chosen and of interest —if they are not read by the student, as no doubt is often the case, that is his loss.

The most interesting chapters in the book are those dealing with cancer and fibroid tumours of the uterus. Dr. Lewers is an authority on the subject of cancer of the uterus and has had a large operative experience with good results. His views are the more interesting since he has practised extensively all the various methods of dealing with cancer of the cervix by operation, including supravaginal amputation, vaginal hysterectomy, and finally the extended abdominal operation after Wertheim's method. Like most other writers, he points out that the essential factor in the cure of cancer of the uterus by operation is not the nature of the operation but the stage of the disease, and, like most progressive gynæcologists of experience, he thinks that even in early cases the extended abdominal operation is the most thorough, and therefore the best. We notice that he still favours the operation of so-called subtotal hysterectomy for the removal of fibroid tumours of the uterus. No doubt before the appearance of another edition he will have recognised the advantages of total hysterectomy, and will have followed the practice of almost every gynæcologist of repute on the continent and of not a few in this country in preferring it; and in his hands it will surely give equally good results.

Although we should be sorry to see the essentially practical character of this book in any way altered, yet it is a pity in our opinion that, in bringing out this new edition, besides supplying a number of micro-photographs of microscopic sections Dr. Lewers did not add to each section a short description of the microscopic anatomy of the various conditions described. There are a number of new and very good illustrations, and the book fully maintains the reputation it has already gained in past years as being a good and sound text-book for the student.

To one other point we should like to refer. Dr. Lewers advises, and apparently practises, the most thorough method of cleansing the hands which we think we have ever seen recommended. It consists of the use consecutively of lysol, tincture of iodine, a spirituous solution of 1 in 500 biniodide of mercury, and, finally, 1 in 1000 perchloride of mercury. We are afraid there are not many operators whose hands would stand such drastic treatment without peeling, and in the cleansing of the hands it is important that no method should be employed which renders them rough and brings off the epidermis. Surely the usual method of using soap-and-water, spirit, and some antiseptic lotion, such as 1 in 1000 perchloride of mercury, is quite sufficient, as it has indeed proved in the practice of hundreds, or more probably thousands, of operators.

Die Neurologie des Auges. By Dr. H. WILBRAND and Dr. SAENGER. Vol. IV., Part II.: *The Diseases of the Optic Papilla, with Special Reference to Choked Disc.* Wiesbaden: J. F. Bergmann. 1912. Pp. 380. Price 18 marks.

THE second part of the fourth volume of Wilbrand and Saenger's encyclopædic neurology of the eye treats of all the pathological conditions affecting the optic nerve head. After two short sections dealing with the changes in the form and colour of the papilla, the remainder of the volume is devoted entirely to papillœdema. Enumeration of the principal headings will give some idea of the exhaustive treatment of the subject. The ophthalmoscopic appearances are first described, then the bilaterality or unilaterality of the affection, and the question of recurrence. The functional disturbances associated with choked disc next receive attention, and then the various causal diseases are discussed seriatim—tumours, aneurysms of the cerebral arteries, fractures of the skull, brain abscess, sinus thrombosis, meningitis, cerebral hæmorrhage and softening, oxycephaly, and other less common causes. The subsidence of papillœdema, spontaneous or after medical or surgical treatment, is next discussed, and finally the microscopical appearances and pathogenesis.

The wealth of clinical material collected from the literature and the authors' experience is admirably abstracted and classified, and will be of the greatest service to future workers in this domain. The opportunity thus afforded for broad deductions and well-founded generalisation does not appear to us to have been taken by the authors. It may be that they have been deterred by an excess of caution, but we miss the guiding hand which they are well qualified to hold out. For the most part the views of other observers receive adequate attention, but relatively little comment. Nevertheless, the cases are well discussed, and the attentive reader will usually find ample material for drawing his own conclusions. If we take the question of ipsolaterality as an example we find a long list of cases in which the papillœdema was greater on the side of the tumour, followed by an almost equally long list in which the reverse obtained. The crucial point in this debate appears to us to be the side on which papillœdema *commenced*, and this point receives little attention, doubtless in some degree due to the absence of sufficiently precise evidence in the protocols. Further, the evidence is obscured by the interpolation of many cases other than those of cerebral tumour. The only definite generalisation arrived at, even tentatively, is that papillœdema on one side, and simple papillitis on the other, is in favour of a tumour on the side of the papillœdema, or of cerebral syphilis. In fine, we do not get the help we hope for. Much the same criticism applies to the pathological anatomy of the condition and its bearing upon the pathogenesis, whilst the physiology of the intracranial pressure—a matter of supreme importance in this connexion—receives scant attention. In these respects the book is disappointing. It will, however, be invaluable to neurologists and ophthalmologists, forming as it does a complementary treatment of the

subject to that found in systematic treatises. Used in conjunction with the admirable work of Uhthoff in the Graefe-Saemisch "Handbook of Ophthalmology," for example, it will be of the greatest value.

Cunningham's Manual of Practical Anatomy. By the late D. J. CUNNINGHAM. Fifth edition. Edited by ARTHUR ROBINSON, Professor of Anatomy in the University of Edinburgh. Vol. I., Superior Extremity; Inferior Extremity; Abdomen. With 255 illustrations. London, Edinburgh, and Glasgow: Henry Frowde and Hodder and Stoughton. 1912. Pp. 673. Price 10*s.* 6*d.* net.

THIS is the first new edition of this well-known manual which has appeared since the death of its author, the late Professor D. J. Cunningham, of Edinburgh, and the transition from the old terminology to the nomenclature of the Basle agreement has now been carried out completely. In the fourth revised edition it was the new terminology that was relegated to brackets, but in this new issue the conditions have been reversed, and it is the old nomenclature that has been given second place. Such a state of affairs was inevitable—it has already come to pass in all our colonial schools—and now clinicians must be prepared to face a generation of students versed in an anatomical language in some respects different from that to which they are accustomed.

Apart from this change—which is a most important one—are some alterations in the methods of dissection and some new illustrations. In our review of the fourth revised edition we had occasion to criticise some of the dotted index lines which mark certain structures depicted. So far as the present volume (Vol. I.) is concerned we note a general improvement in the clearness of these details, but there are still some concerning which much ambiguity is manifested. It is remarkable that Fig. 111 has again been reproduced, for this illustration has proved a stumbling block to every student who has used the book since the last issue appeared. In this figure the plantar arterial arch is depicted as being nearer the skin of the sole than the plantar nerves; the diagram is wholly inaccurate and its inclusion so soon after the older Fig. 108, in which the relations are correctly displayed, is a source of confusion that should have been at once eliminated. Sound though the manual is, and progressive as it certainly shows itself to be, it still needs the same care in its revision as was given by its late author to its first making.

Le Liquide Céphalo-Rachidien Normal et Pathologique. Par W. MESTREZAT, M.D., Licencié ès Sciences, Chef de Travaux de Chemie à la Faculté de Médecine de Montpellier. Paris: A. Maloine. 1912. Pp. 681. Price 12 francs.

IN this monograph about 200 pages are devoted to the consideration of the normal cerebro-spinal fluid and the remainder to its pathological aspects, as well as to the indications it gives in relation to disease. Since the year 1825, when Magendie gave this fluid its present name, it has been widely studied in France as well as elsewhere. The present is an excellent painstaking memoir which contains a large amount of work done by the author himself, and gives a full account of practically all that is known with regard to the "humour."

The introductory part on the technique employed shows how thorough the author is, more especially how he has studied the "humour" in its chemical aspects, even to the minutest details, both as regards its normal and abnormal chemical composition, and the passage of abnormal substances into it. The cytology is also considered, notably as regards the alleged absence of leucocytes and the presence of non-formed elements. The physical constants are next investigated. Amongst reducing substances glucose is normally present, although this has been denied, but in addition there are other reducing substances. The amount of glucose normally present—"glycorachia," as the author calls it—is 0·534 gramme per litre, while cholesterine is present only in traces. As to the mineral matter, phosphates, sulphates, and nitrates exist only in traces; chlorides and bicarbonates predominate, the sodium salts being much the most abundant. The author has some interesting speculations as to the relation of this fluid to secretions and transudations (p. 184) which are worthy of study.

The pathological part is very elaborate and should be read by all medical men interested in this subject. It includes an immense mass of details chiefly from the chemical side in a great number of diseases—in meningitis of various kinds, spina bifida, tabes, general paralysis, meningo-myelitis, xanthochromia, Pott's disease, sclerosis, cerebral tumours, tuberculosis, cerebral and other hæmorrhages, pneumonia, typhoid, syphilis, parasitic affections, and various intoxications, such as uræmic diabetes. The bacteriology is also included. The fluid itself is formed by the plexuses of the ventricles, and is absorbed partly by the perivascular sheaths of the veins and lymphatics, the former being far the more important. Its composition is essentially inorganic, and is of variable composition. The bibliography of the book alone extends to over 40 pages. Above all, the author insists on the clinical value of a thorough chemical examination of the fluid. It is the best monograph known to us on the subject.

The Essentials of Morbid Histology. For the Use of Students. By ALBERT S. F. GRÜNBAUM, M.A., M.D. Cantab., F.R.C.P. Lond., Professor of Pathology in the University of Leeds. With 22 coloured plates and 139 other illustrations. London: Longmans, Green, and Co. 1912. Pp. 219. Price 7*s.* 6*d.* net.

THIS book follows the lines of Professor Schäfer's "Essentials of Histology," which the student is assumed already to possess and to have studied. It differs from it in some respects, as it contains very little relating to the methods used. There is an appendix dealing with some of the more special methods for pathological work, the reader being referred to the "Essentials of Histology" for the ordinary methods. The special methods described are the methyl violet for lardaceous degeneration, and scarlet R. for fat. There is, however, no mention of Sudan III. and the Nile-blue stain. Pappenheim's stain for plasma cells, Heidenhain's nuclear stain, von Gieson's and Mallory's stains for connective tissue, Weigert's stain for elastic fibres, and the usual blood stains are given in the appendix.

The work itself is intended to assist the teaching of "general" rather than "special" pathological anatomy. It deals purely with histology and not with what is called macroscopical pathology. The naked-eye appearance of lesions of organs finds no place, and very little space is given to the bacteriological aspect.

The author makes no pretence of completeness. He divides his subject into 30 short chapters, each of which is preceded by a list of "Illustrative Preparations," five, six, or more, with which each chapter deals. A short and clear account is given of the preparations, with general statements as to the causes and conditions under which the pathological changes described and figured are brought about. First the cell and its degenerations are considered, importance being attached to the study of mitosis. Circulatory disturbances, injury and repair, and inflammation are in turn briefly discussed and illustrated. The author states that the best definition of inflammation is that of Grawitz as "the reaction of irritated and damaged tissues which still retain vitality." The general consideration of atrophy,

hypertrophy, and new growth is followed by the description of the histo-pathology of the respiratory, circulatory, and alimentary systems. The liver, pancreas, spleen, kidney, and genito-urinary organs are then dealt with, and ductless glands, blood, serous membranes, lymphatic glands, bones, muscles, and nerves follow. Lastly the central nervous system is disposed of in 15 pages. This is practically the only part in which the author draws for pictorial aid from outside sources.

The illustrations, both in black and white and in colours, are well drawn, and as they are printed on glazed paper the effect is good and the details of the drawings are sharp and clear. As to the text and illustrations, as the author says, he had to choose between what is essential and what is accessory. We think he has made a discriminating and judicious choice, nor has he overburdened the text with superfluous details. There are no references to the literature of the subject. The descriptions are lucid and easily followed, while some of the illustrations, such as the effects of radium, are not to be found in every text-book. So far as it goes, the book will, we think, prove a useful text-book for students of pathology.

Praktische Neurologie für Aerzte. Von Professor Dr. M. LEWANDOWSKY, in Berlin. Mit 20 Textfiguren. Berlin: Julius Springer. 1912. Pp. 300. Price, paper, 6.80 marks; bound, 7.60 marks.

THIS book is intended solely for those members of the medical profession who have not made a special study of neurology. Seeing that the great majority of patients who happen to be afflicted with nervous disease are seen first of all by the general practitioner, and that many remain, as they ought to remain, in his care, it behoves him not to ignore neurology because of its seeming complexity; for acquaintance with the main principles of examination and knowledge of the main types of nervous disease will in many instances lead him easily enough to a correct diagnosis, to the obvious advantage of the patient.

To the general practitioner, then, we cordially recommend this book. It is very comprehensive for its size, well written and well put together; the essentials of diagnosis and treatment are emphasised; the minutiæ are kept in the background. The chapters on the examination of nervous cases and on the significance of common nervous symptoms, such as giddiness, headache, ataxia, unconsciousness, fits, involuntary movements, contractures, and so on, are excellently done; but the whole range of neurology, from myopathy to intracranial tumour, and from acroparæsthesia to the psychoneuroses, is surveyed in an interesting and sufficiently detailed fashion to justify our expectation that this volume will receive the appreciation it deserves. We are not surprised to find that Professor Lewandowsky's attitude towards Freudian lore is cold and unenthusiastic. "We cannot accept the theories," he says, "without argument, and in place of these we are offered fantastic conjectures." This is a complaint which can be quite legitimately made.

It is, we think, a not uncommon fault in German text-books that the scheme which they adopt of the segmental innervation of the skin is not satisfactory. This is almost always the case for the lower lumbar and sacral roots, and the diagrams in this book are no exception. The distribution here given for the fifth lumbar and the second sacral roots is not in accordance with the researches of Tooth and others, which are accepted by clinicians, in England at least, as being for all practical purposes correct. Professor Lewandowsky seems to consider absence of the plantar reflex of no significance, but only its condition of flexion or extension. It will frequently be found, however, that absence of any toe movement on stimulation of the sole is indicative of functional disease. Where so much is compressed into narrow limits it may appear hypercritical to complain, but we should have liked rather more than a couple of lines to be devoted to the important question of the symptoms of cervical rib.

Professor Lewandowsky is to be congratulated on producing a volume which is calculated to supply the general practitioner with all that he need desire in the matter of neurological symptomatology and diagnosis, while the paragraphs on treatment are practical and discriminating.

Die Bedeutung der Magenradiologie für die Chirurgie. Von Privatdozent Dr. PAUL CLAIRMONT, Assistenten der I. chirurgischen Klinik, und Dr. MARTIN HAUDEK, Assistenten des Röntgenlaboratoriums. Mit 8 Abbildungen im Text. Jena: Gustav Fischer. Pp. 96. Price 2.80 marks.

WHEN radiography was first introduced into surgery it was mainly employed for the recognition of fractures and dislocations, and though the method still retains its importance in that division of surgical practice, it has extended its usefulness into other fields. The knowledge of the position and shape of the stomach and intestines is of the greatest importance both to the physician and to the surgeon. Through the use of substances opaque to the X rays we are able, by administration of a meal, to learn, not only the shape and position of the stomach, but also whether there is any delay in the passage of the contents of the stomach onwards into the bowel. Hour-glass contraction of the stomach can be rendered visible, and other changes also can be recognised, the existence of which would not be known otherwise, and the decision as to operation can be greatly helped. This book contains a report of a large number of cases in which the stomach was examined by radiography, and illustrations are given of many of these cases, showing their skiagraphic appearances. Practice is needed, not only to obtain a good skiagram, but also to interpret it correctly when it has been obtained. Sometimes an X ray examination of the stomach will show that the organ is normal, and it will suggest that the pains which have been attributed to disease of the stomach are really due to some other condition, such as tabes.

The cases related have been chosen so as to illustrate the main points in diagnosis of diseases of the stomach, and the reader will learn much from this book, and with practice will be able to apply this knowledge.

The Skiagraphy of the Accessory Nasal Sinuses. By A. LOGAN TURNER, M.D. Edin., F.R.C.S. Edin., F.R.S.E., and W. G. PORTER, M.B., B.Sc. Edin., F.R.C.S. Edin. 40 Plates. London and Edinburgh: William Green and Sons. 1912. Pp. 45. Price 10*s.* 6*d.* net.

IN consequence of the increasing recognition of the value of radiography in the surgery of the nose, the need has been felt of a practical volume explanatory of the technique. The limitations of this valuable aid to the diagnosis and the treatment of diseases of the accessory nasal sinuses have been pointed out at the same time by Dr. Logan Turner and Dr. Porter, who are to be congratulated upon their work.

The volume is mainly an atlas, and consists of 40 plates, natural size reproductions of skiagrams, and of about the same number of pages of text. In the interpretation of a skiagram of disease in the nasal and accessory nasal cavities, as in the interpretation of abnormal sounds of the heart, it is necessary to have a vivid mental impression of the normal conditions. To this end the authors have prefaced the volume with a careful description, and several plates of the antero-posterior and lateral views of the skull, and also of the accessory sinuses as they exist in the living person; and where necessary the skiagram has been

supplemented by a key plate. Then follows an account of the value of the skiagram in studying the development and anatomy of the air sinuses. The importance of using this clinical aid, whenever possible, in investigating suspected disease of those cavities in children cannot be over-emphasised. Radiography brings out the variations, not only in the size, but also in the age of development, of these cavities during child-life. Plates XVII. to XXIII. inclusive illustrate the development of these regions from birth to the age of 12. The anatomical configuration and relations of the sinuses from a clinical standpoint are discussed at some length, and their bearing upon the operative work of the surgeon is clearly demonstrated. The last 13 plates are devoted to the value of the skiagram in the study of diseased conditions. Not only are the suppurative conditions dealt with, but reference is also made to the use of the X rays in the detection of foreign bodies, dental cysts, mucoceles, choanal polypi, and malignant disease. There is also a plate showing the head of an adult with a V-shaped palate, and one of an adult showing the maxillary sinuses encroached upon by the nasal cavities. The text concludes with a judicious summary of the conclusions arrived at by the authors as the result of their own investigations.

The volume will be found to be a valuable addition to the bookshelves of all concerned with the obscure diseases of which it treats. Some readers may possibly display their appreciation and gratitude by asking for more, and the value of the work—from a practical standpoint—would have been enhanced by more detail, and some figures or diagrams in the text, descriptive of the technique of this method of examination.

LIBRARY TABLE.

The Food Inspector's Encyclopædia. By A. HORACE WALKER, Member of the Royal Sanitary Institute, Sanitary Inspector to the Borough of St. Pancras. London: Ballière, Tindall, and Cox. 1912. Pp. 303. Price 7*s.* 6*d.* net.—One of the least satisfactory features of the system adopted in this country to control the purity of food and to prevent adulteration is the excessive reliance which is placed on inspection of food-stuffs where they are exposed or offered for sale. Although something has been done in recent years to transfer the control to the place of preparation, the principal line of defence which our legislation provides is still the examination and sampling of foods at the retail shop or market, which ordinarily falls to the sanitary inspector, along with the large number of other duties belonging to his office. Fortunately the appointment of special inspectors for food inspection work is on the increase in the larger boroughs, and particularly also at the ports since the Local Government Board regulations as to imported foods were issued, and these officers are in many cases well acquainted with the technical side of their work. In the greater part of the country, however, it still rests with the ordinary sanitary inspector to pick up such knowledge of meat and food inspection as he can, and Mr. Walker's encyclopædia is designed to help him by affording ready reference to the meaning of technical terms and the characteristics of foods and food ingredients. The object is praiseworthy, and we notice several explanations of terms which would not be easy to come by elsewhere. By "Jack" butchers indicate horse-flesh; among food inspectors the primary meaning of "auscultation" is judging canned foods by the sound which they give on tapping or shaking the tin; "bonnyclabber" is sour milk, and "bungs" are edible large intestines. On the other hand, some ordinary terms are by no means well described. Glucose is not necessarily solid, nor is Armenian bole merely silicate of aluminium. "Auricle" is defined as "the name given to the two muscular cavities of the heart," but we find no mention of ventricle. "Alimentary canal," again, is not usually applied only to the large intestine, and we doubt if the wine trade would endorse the entry under "classification of wines." The volume has, indeed, a failing not uncommon with works of this class; to be a good glossary it needs revision and the removal of a quantity of unnecessary matter, while if it is intended to give the principal facts which a food inspector may want to know about any given food it is very far from sufficient.

The Annals of Tropical Medicine and Parasitology. Series T.M., Volume VI., No. 2.—This recent number of the Annals issued by the Liverpool School of Tropical Medicine contains no fewer than 12 original contributions, all of considerable value and relating to various branches of research; and as frontispiece there is an excellent portrait of Professor A. Celli, of Rome. The first article is on the Measurements of Trypanosoma Rhodesiense, by Dr. W. W. Stephens and H. B. Fantham, D.Sc., giving the conclusions from a biometric study of that trypanosome. The results obtained are shown in tables and charts, and the graphic representations of their measurements of T. rhodesiense are compared with the curves obtained by Sir David Bruce with T. gambiense and T. brucei. Considering the three curves together, the observers note that T. rhodesiense appears to be different from T. gambiense, but that the difference from T. brucei is slight. This paper, which was read before the Royal Society last May, is illustrated by a coloured plate.—An interesting series of three articles on Microsporidiosis, a protozoal disease of bees due to nosema apis and popularly known as "the Isle of Wight disease," is furnished jointly by Dr. Fantham, and Annie Porter, D.Sc. These experts were the first to establish the fact that this parasite was the cause of the fatal disease in bees which appeared in England in 1904. The morphology and life-history of this parasite and the significance of its various stages in the disease are fully set out; a description is also given of its mode of dissemination, and of the way in which the malady may best be controlled and prevented. The complete life-cycle of nosema apis in the adult hive-bee has been set forth for the first time by these two investigators.—Dr. David Thomson contributes two articles, (1) Further Observations on the Variations in the Number of Leucocytes and Crescents in Malaria, and (2) The Destruction of Crescents: Conclusions regarding the Prevention of Malaria by the Administration of Quinine. Adverting to the controversy regarding the respective merits of mosquito destruction on the one hand, or quinquinisation of the population on the other, as measures for reducing the incidence of malaria, Dr. Thomson considers the former to be the better, because mosquitoes are pests causing much inconvenience quite apart from malaria, and, moreover, they carry several other diseases. In some cases, however, as, for instance, where the population is sparse and swamps abound in the locality, the quinine method may be preferred; but there is no reason why both methods should not be carried out simultaneously. Dr. Thomson puts forward what he calls two "ideal" methods of quinquinisation of a population: viz., (*a*) that every adult person in the population should take 20 grains of quinine daily and simultaneously for a period of three weeks quarterly—i.e., four times a year, children receiving similarly a proportionate dose of the quinine; and (*b*) that a quarterly census of the blood of the population should be taken before administering the quinine as in the (*a*) method. Only those who had parasites would require to take the three weeks' course of quinine, and those with crescents would, if possible, be isolated in mosquito-proof hospitals until non-infectious. The best way of carrying out the blood census, Dr. Thomson says, would be

by Ross's thick-film method, and this would require one medical man with several assistants for each 1000 of the population during the time of taking the blood census.—Dr. G. C. E. Simpson contributes a preliminary note on Hæmolysis in Malarial Fever in continuation of his previous work on the subject.—Following up a recent paper which summarised the chief investigations into the causation of beri-beri, a further contribution on the subject is now given, entitled "The Anti-Neuritic Bases of Vegetable Origin in Relationship to Beri-beri, with a Method of Isolation of Torulin, the Anti-Neuritic Base of Yeast." This article has been jointly prepared by Mr. E. S. Edie, Dr. W. H. Evans, Mr. A. Webster, Professor B. Moore, and Dr. Simpson, and the work, which is being continued, was done in the Laboratories of Tropical Medicine and Bio-Chemistry of the University of Liverpool.—The next article is by Dr. J. A. Linton, giving Some Observations on the Morphology and Biology of Prowazekia Urinaria (Bodo Urinarius, Hassall), and is illustrated by a number of drawings in the text and two coloured plates.—Dr. Allan Kinghorn and Dr. Warrington Yorke furnish a Further Report on the Transmission of Human Trypanosomes by Glossina Morsitans (Westw.), being the second interim report of the Luangwa Sleeping Sickness Commission, in which they conclude that T. rhodesiense is transmitted in nature by G. morsitans, and that a considerable percentage of the local game in the Luangwa valley is infected with that trypanosome. In THE LANCET of Sept. 28th (p. 893) we drew attention to this report in discussing Sleeping Sickness in Northern Rhodesia.—The Measurements of a Thousand Examples of a Short Form of Trypanosome from a Double Infection is the subject of an article by Dr. B. Blacklock, which is illustrated by several charts, and this interesting number of the "Annals" closes with a contribution by Dr. Harold Seidelin on Leishmaniasis and Babesiasis in Yucatan, in which he describes some human cases of ulceration of the ears caused by leishmania tropica, and some cases of an acute febrile disease in cattle in which he found parasites diagnosed as babesia bigemina.

Food Values: Practical Tables for Use in Private Practice and Public Institutions. By EDWIN A. LOCKE, A.M., M.D. London and New York: D. Appleton and Co. 1911. Pp. 110. Price 5*s.* net.—This little book contains detailed tables of the nutritive values of a very large number of articles of food, worked out in the proportions of protein, fat, and carbohydrate present, and expressed in grammes and calories. Rubner's equivalents are adopted for the caloric value of these proximate principles, and the proportion of nutrient material consumed by the average person is taken at 100 grammes of protein, 150 grammes of fat, and 350 grammes of carbohydrate. These data agree fairly well with the standards adopted in this country, and the tables, which have been worked out with great care and elaboration, should be of use to all engaged in practical dietetics.

The Science French Course. By C. W. PAGET MOFFATT, M.A. Lond., M.B., B.C. Cantab. London: W. B. Clive, University Tutorial Press, Limited. 1912. Pp. 305. Price 3*s.* 6*d.*—Not everyone who has a fair reading knowledge of French, even though he be technically educated in a particular scientific subject, can read without difficulty French technical writings dealing with that subject. It is the object of the "Science French Course" to render special aid in this direction. The book contains the elements of French grammar, notes on some important constructions, and a comment on the irregular accidence and paradigms of verbs. This is followed by the characteristic portion of the series of language books to which the present one belongs, containing some elementary readings in natural history, a table of the full French equivalents in words of mathematical symbols, and finally what may be regarded as a series of elementary lessons in French on mathematics, physics and its branches, botany, zoology, and geology. But here, it seems to us, a most important part of the work is lacking—viz., a vocabulary of all the French technical terms and of ordinary words that have a special significance in technical writing which are used in the lessons. In translating French technicalities even a fair knowledge of the language will not enable the reader to grasp the meaning of a sentence which he may be perfectly able to translate literally. A series of notes, also, explaining the French way of looking at things where it differs materially from the English, and similar in scope to the notes that used to assist us in our Herodotus and our Livy at school, would be of great value. The idea of the book is so good, and so well carried out as far as it goes, that it would be well worth while to remedy these defects in future editions.

County Churches: Suffolk. By T. HUGH BRYANT. In two volumes. Vol. I.: Western Division. Pp. 174. Vol. II.: Eastern Division. Pp. 246. London: George Allen. 1912. Each volume 2*s.* 6*d.* net.—The 420 pages of these interesting little volumes contain notes on no less than 530 old churches; as a rule, therefore, each note is very brief. But by the use of initials to indicate the orders of architecture, and by the rigid suppression of everything but bare facts, the author manages within his slender space to give just the information which is required to influence a visitor to see a particular building. And many of the Suffolk churches, as might be expected in the case of a county that for several centuries was the first or second in importance in the country, are well worth inspection, though the fury of William Dowsing and the rapacity of the Commissioners of Edward VI. respectively destroyed many of their greatest beauties and confiscated most of their treasures. The churches at Bury St. Edmunds, Long Melford, Lavenham, and Southwold, to mention four belonging to the Perpendicular period, are among the finest examples we have. Archæological study, though it be of the most partial and desultory sort, is nowadays very common, and we have no doubt many readers may put such notes as are here supplied to practical use. The churches of two other counties—namely, Norfolk and Surrey—have already been dealt with in the series.

School Dental Clinics, their Foundation and Management. By C. EDWARD WALLIS, M.R.C.S. Eng., L.R.C.P. Lond., L.D.S. Illustrated. London: Claudius Ash, Sons, and Co., Limited. 1912. Pp. 68. Price 3*s.* 6*d.*—Mr. Wallis is to be congratulated on the publication of this little book, which is full of useful advice to those engaged in the work of founding and carrying on school dental clinics. The author has had a considerable experience of the subject, and one feels that the statements made are the outcome of that experience. The medical profession is fully alive to the importance of the dental treatment of children, but, as the author states, one great obstacle in obtaining such treatment is the difficulty of convincing the local education authorities that the benefits to be provided are not out of proportion to the probable cost. Mr. Wallis shows how the school clinics can be started at a comparatively small cost, and gives full details of the clinics already at work in the London County Council area. He is in full agreement with the delivery of popular lectures on the care of the teeth, and points out that in such lectures the relation of septic teeth to general disease should be emphasised in the strongest way possible.

THE Lewisham memorial to the late King—a new bacteriological and X ray department for St. John's Hospital, Lewisham—was opened on Oct. 10th by Major Sir Edward F. Coates, Bart., the Member of Parliament for that borough, and Sir Almroth Wright.

THE LANCET.

LONDON: SATURDAY, OCTOBER 12, 1912.

The Use and Construction of Hospitals for Infectious Diseases.

A REPORT on "Isolation Hospitals" by Dr. H FRANKLIN PARSONS, completed since his retirement from the service of the Local Government Board last year, has now been issued as a special supplement to the annual report of the medical officer of the Board for 1910–11.[1] It is a document which is certain to be of much value to public health authorities and deserves to be widely read. Dr. PARSONS'S minute acquaintance with the subject is well known; he has had at his disposal the information supplied to the Local Government Board in connexion with the large number of hospitals erected under the sanction of that department, and obtained also through the inspections and reports of the Board's medical and architect's staff, and he has brought the practical questions which arise in connexion with these hospitals admirably into focus. The report discusses in turn the utility of isolation hospitals, the areas for which they should be provided, the principles involved in hospital isolation, design and details of construction, and the cost of the hospitals and the means of reducing it. It also contains detailed descriptions and plans of 24 English hospitals of various types.

The extent to which special hospitals have been provided for in cases of infectious disease, and the excellent construction and management of many of these institutions, form a conspicuous feature of sanitary administration in this country. The present generation of town-dwellers takes the municipal hospital for infectious diseases as a matter of course, and regards it as indispensable, while the number of hospitals serving the smaller towns and rural districts is already large and is steadily increasing. It is true that at the present day our conception of the function and utility of these hospitals is in some respects more modest than that of some of the pioneers of hospital isolation in the Victorian period. Experience has shown the fallacy of expecting that infectious disease will be "stamped out" by the immediate isolation of all known cases; hospitals have been found to have their own risks in the matter of "return" cases and cross-infections; and sometimes, when a hospital has been allowed to become overcrowded and under-staffed, it has been impossible to rate very highly the services which it has rendered either to the patients or to the public. No doubt, also, the hospitals have often been regarded too exclusively as establishments for the isolation of children suffering from scarlet fever, and the mild type and low death-rate which have recently characterised this disease, both within the hospitals and outside them, have frequently led to the charge that the money spent on the hospital could have been better expended on preventive measures of wider application. Consideratons such as these, together with the advance in knowledge of the methods by which infectious diseases are maintained and spread, have already brought about a considerable change in the character and manner of use of our larger isolation hospitals. Their function is still to "isolate," but primarily they are rather hospitals for the reception and treatment of appropriate cases of infectious disease than places for "isolation." Less stress is now laid on keeping beds in readiness to accommodate every notified case of scarlet fever or diphtheria during a period of prevalence, but, on the other hand, the hospital is in constant use for a much wider range of infectious diseases or suspicious cases, selected according to circumstances in which either the better chance for the individual patient or the position of the household to which he belongs, or the risk of the public if he remains at home, may be the determining factor. Measles and whooping-cough, which till lately were seldom admitted except in a few hospitals in Scotland, are now habitually received in the hospitals of the Metropolitan Asylums Board and in provincial centres. Cases of puerperal fever and of erysipelas are frequently taken, and with much benefit. Their use for the treatment of venereal diseases in the near future seems not improbable. Several isolation hospitals have for some years been utilised for the treatment of cases of pulmonary tuberculosis, and this practice is certain to extend rapidly as part of the institutional provision for tuberculosis which local authorities are making under the National Insurance Act.

These changes are naturally reflected in the designs of new isolation hospitals and of the additions made to existing institutions. In any isolation hospital, whether large or small, the many-bedded ward is at present indispensable. It is the most convenient and economical when numerous cases of the same disease are under treatment, and may also in some cases safely be used for more than one disease—for example, enteric fever and diphtheria. But it is now also necessary to supplement these wards by a number of smaller wards, cubicles, observation beds, and the like, and Dr. PARSONS'S report illustrates the variety of the designs which have been adopted to secure necessary separation of individual cases without making undue demands on the nursing staff or needlessly adding to the cost of construction. "Open air" wards are also increasing. With copious ventilation, "barrier" systems, and other precautions, hospital wards have been utilised with comparative safety for a surprising variety of infectious cases at one and the same time. An instructive account of the practice at the Fazakerley Hospital, Liverpool, in this respect was recently given to the Royal Society of Medicine by Dr. RUNDLE, and the critical discussion which followed[2] illustrates at once the promise and the considerable limitations of the method.

Owing to difficulties often met with in securing sites,

[1] Cd. 6342. London: Wyman and Sons, Fetter-lane; Edinburgh: Oliver and Boyd; Dublin: E. Ponsonby. Price 1*s.* 7*d.*

[2] Epidemiological Section, Transactions of the Royal Society of Medicine, 1912.

the increased cost of building materials, and other reasons, isolation hospitals are expensive to provide, and usually local authorities meet the cost by means of a loan and thus have to obtain the sanction of the Local Government Board to their proposals. It is clear from Dr. PARSONS'S report that while the central authority is keenly alive to the importance of satisfactory sites and buildings and to the reduction of unnecessary cost, sanction is now given to buildings which differ widely in character, and useful new designs are in no way discouraged. The few general requirements upon which the Local Government Board makes a practice of insisting have on the whole stood the test of time and experience. Dr. PARSONS considers that the primary basis on which the allowance of space per bed is calculated should be floor area and wall length rather than cubic capacity, and on this view a relaxation of the standard of 2000 cubic feet per bed to one of 1872 cubic feet with 144 square feet of floor area and 12 ft. of wall length is recommended. Some modification of practice in regard to structure of walls and similar matters is suggested so as to avoid placing any handicap on the use of more recently introduced materials and methods. He does not advise any departure from the official rule, made to secure adequate open space about buildings and to prevent infection, that a distance of 40 ft. should separate adjoining ward blocks and that the same distance should be left between ward blocks and the boundary of the site. Any objections to an arbitrary standard of distance in these respects are outweighed by the convenience of a universal practical limit. Nor does he find any case for modifying the departmental requirement that a hospital which is in use for small-pox is not to be employed at the same time for other infectious diseases, or placed within prescribed distances from populous neighbourhoods. The spread of small-pox from hospitals receiving acute cases of this disease has occurred too often in past epidemics, and, as Dr. G. S. BUCHANAN and others have shown, it was distinctly illustrated on several occasions during 1901–03, the latest period of epidemic prevalence. The Local Government Board does not allow loans, other than occasionally and for short periods, for "temporary" structures, such as timber-framed buildings covered externally with corrugated iron or weather boards and lined with match-boarding. They are open to objection on account of their liability to rapid destruction by fire and storm, and Dr. PARSONS shows that the economic advantages claimed for them are often illusory. The maker's list prices include only the bare building above the foundations. Site, fencing, water-supply, drainage, concrete under floor, furniture, and fittings are all extras, and the building of which the nominal price is £400 may come to cost £1000 or more before it is completed and ready for occupation. The policy of the central department in encouraging the smaller local authorities to combine for hospital purposes has also been justified by past experience and is made easier by the use of motor ambulances. It is, indeed, of greater importance than formerly on account of the variety of infections and suspected cases for which hospitals are now employed, and the impossibility of securing efficient provision for them at reasonable cost unless the hospital serves a considerable population.

Medical Referees in Relation to Workmen's Compensation and other Litigation.

THE institution of medical referees in connexion with workmen's compensation for injury through accident was a belated and half-hearted recognition of the injustice that must necessarily result from the failure of a lay arbitrator to deal discriminatingly with medical evidence. The limited scale on which the innovation was introduced has prevented it from proving its usefulness to the full, so that claims under the Workmen's Compensation Acts (and under their predecessor the Employer's Liability Act of 1880) have increased the amount of medical evidence, frequently of a conflicting nature, given in courts of law, without providing generally any satisfactory means for determining doubtful points, if not with absolute certainty, at least with the nearest approach thereto attainable. Before the passing of statutes for the benefit of working men in cases in which the common law denied them relief, claims for damages through injuries occasioned by negligence (not their own), and claims against insurance companies under their policies, were the principal occasions calling for medical evidence in civil courts; and conflicts of expert testimony were common enough. Such situations have now enormously increased in frequency, and the unsatisfactory manner in which they are adjudicated upon is rendered more prominent by the alleged liability in a large number of instances being admitted or not seriously disputed. On these occasions it is not a question of whether a certain person shall pay, but only of the amount that he shall pay.

In all descriptions of cases, however, involving the consideration of personal injuries, whether under the common law or under statutes providing special benefits for special classes of claimants, the principal matters to be decided upon may be assigned for our present purpose to three groups. The first comprises the ordinary facts of the accident (or whatever the event may be out of which the litigation arose), the second comprises the points of law affecting the case, and the third has regard to the question of the physical disability, temporary or otherwise, upon which in greater or less degree, according to the nature of the case, depends the amount that one party is to pay to the other. Here proof largely depends on medical evidence, or, at any rate, a purely medical question may be involved, and the same evidence may also affect the question as to how the alleged injuries were received. The facts referred to under the first heading indicated are decided, in cases tried before juries, by ordinary citizens of no particularly ascertained capacity or training, and in other cases by a judge; there is no reason, apart from such considerations as the liability of juries to be swayed by their sympathies or by skilled advocacy—a point which we do not propose in this connexion to discuss—why they should not be thus decided. The points of law, secondly referred to, are properly decided by a judge, and no one would recommend that they should be submitted instead to a group of common or special jurors, or to a medical man, or to anyone but a trained lawyer. The medical questions forming the third group in the classification, being part of the facts

as distinct from the law of the case, are treated as if on a par with the other facts (such as whether a horse swerved or a plank gave way), and are submitted for decision either to a group of jurors or to a trained lawyer, all of them "laymen" from the medical standpoint. We submit that, from the point of view of those who desire that justice should be done, it is no more possible to justify this than it would be to justify the referring of questions of law either to a jury or to a medical referee. There can be no ground for saying that disputed points as to the physical condition of a possibly deceitful claimant for compensation are more easy to determine without special training than are the points of law affecting his right to a judgment in his favour; and it will be remembered that the medical points of his case are, as we have said, questions of "fact" and cannot, like questions of law, be reopened and redecided in successive courts of appeal. It is therefore all the more important that they should be decided rightly, or as nearly rightly as is reasonably possible, in the first instance.

We need not dwell upon the temptation to magnify personal injuries in connexion with legal claims. Sir JOHN COLLIE[1] has made valuable contributions to the literature of malingering, with special reference to its increasing prevalence under the Workmen's Compensation Act now in force. The malingerer belongs, however, to no particular social class. At the International Congress of Insurance Brokers and Agents held recently in London Mr. A. H. RISELEY contributed an interesting paper on Accident and Casualty Insurance,[2] in which he referred to the growing tendency of workmen to exaggerate their injuries; but speaking from his experience of insurance work, he said frankly that "without any need of figures to prove one's statement one can emphatically say that the percentage of exaggerated claims in the case of workmen is nothing as compared with the percentage of inflated claims received from the better classes in case of injury where a personal accident policy exists or there is a claim at common law against some party or parties. No doubt the wisdom of the legislature in providing half wages only largely accounts for this." With reference to workmen's claims, Mr. RISELEY dwelt upon the fact that employed persons are realising in an increasing degree the facility with which compensation may be obtained, and upon the increase in the number of speculative solicitors who are ready to take up their cases, and who do not hesitate to canvass for clients. As a result of this baleful intervention, although the amount paid may be increased, the workman often receives less than he otherwise would, the employer or the insurance company is bled, and the solicitor profits by conduct which his profession at large condemns, but is powerless to prevent. Mr. RISELEY has a word to say also upon the sympathy, not always deserved, extended by county court judges to claimants before them. It is natural that such sympathy should be aroused in laymen by tales of physical suffering, the exaggeration of which would be apparent to an impartial medical man accustomed to consider professionally physical injury and its results.

Lastly, Mr. RISELEY refers to those medical men who lend themselves to the manufacture or inflation of fraudulent and exaggerated claims. It would be as idle to deny that such persons exist as to assert that medical practitioners are never deceived. Evidence honestly given, but not honestly obtained, has before now been misleading. A very large sum of money might be saved in some cases, and possibly more substantial justice be done in others, if it were obligatory on employers and workmen, in cases of dispute, to refer the case to the medical referee as provided by the Act. Sir JOHN COLLIE would compel recourse to a medical referee on the application of either party without the necessity of paying a preliminary fee, and with the right of appeal to a board of three medical referees. Instead of a judge being permitted to summon a medical referee to his aid as assessor, and instead of leaving it to the judge to decide whether he will accede to the request of one of the parties who desires such an assessor, we should have the position that whenever the evidence of a registered medical practitioner is to be called there would be a medical referee to sit with the judge as assessor. Cases arising under the Workmen's Compensation Act, 1906, may be considered in this connexion by themselves. Compensation claims constitute a group of cases in which the proper appreciation of medical evidence is of preponderating importance, and an opportunity is afforded by them for an experiment upon a large scale, but affecting a limited class. If that experiment were to be tried we have little doubt that it would be found to work in a manner satisfactory to the honest workmen and to his employer, and that the principle of allowing either party in litigation to insist upon medical evidence affecting his case being referred to a medical expert would eventually be adopted in all litigation. It is difficult to imagine any class of honest litigant who could reasonably object to such a procedure being instituted, while the medical practitioner would welcome the chance of giving his evidence before some one able to understand the necessary technicalities. The objectors would be those who reap advantage from the existing circumstances, which to our mind already closely approximate to a public scandal, and show no signs of improvement.

[1] Medico-Legal Examinations and the Workmen's Compensation Act, 1906, reviewed in THE LANCET, Oct. 5th, 1912, p. 950.
[2] See Official Handbook, p. 72.

The National Insurance Act.

THE situation with regard to the National Insurance Act has undergone no alteration during the week, nor, indeed, was this to be anticipated. The present position is a fairly plain one, however anxious it may be, and it does not seem likely that it will be in any way modified for two or three weeks to come. The information conveyed in the Regulations, which we published in full last week, had been freely discounted beforehand through the premature revelation of the gist of the document; therefore, no particular action of medical men as a mass was to be expected upon the appearance of the document or upon

the issue of the Model Rules for Administration of Medical Benefit, which were published immediately after the Regulations, and which will be found in full in another column of this issue. It is now generally admitted that the Government will increase the amount of money available under the Act for the provision of medical benefits, but we have no official information as to what actual sum of money will be available, or what increase in the flat-rate that sum will meet. With regard to the latter point, a probable figure has been widely circulated in the lay press, presumably upon good authority, but we have no further knowledge on the matter.

We are not aware whether the British Medical Association has received any communication from the Government on this subject or whether the report upon the Regulations, now awaited from the State Sickness Insurance Committee of the Association, will be able to take note of anything further than the actual document embodying those Regulations, with the gaps in the schedules still left unfilled. But it is upon this report that the future action of the medical profession, as represented by the British Medical Association, must largely depend. The report of the State Sickness Insurance Committee will require endorsement by the Council and the Representatives, and the decision of the Association cannot, we understand, be made before the third week in November. It is possible that by that date the blanks in the schedules will be duly filled up, so that a concrete proposal will be before the Representative Body, even if it has not been before the State Sickness Insurance Committee. We continue to hope, in accordance with previous views expressed on the subject, that room will be found for further negotiations with the Government, and no doubt the Representatives will to some extent be impressed not only by the obvious fact that concessions have been made to medical opinion, but by their knowledge of how far the Public Medical Service, to be instituted by the British Medical Association, promises to fulfil its objects and to receive the necessary support.

The services rendered by the British Medical Association to the profession during the long course of resistance to the measure have been very large. No one can doubt that without such resistance the medical profession would have found its position under the Act an extremely painful one. If the Association should now decide to continue negotiations with the Government with a view to placing its organisation—of course with proper safeguards—at the disposal of the Insurance Commissioners, a long battle may yet be decided in an honourable manner between two parties, neither of whom can be said to have absolutely vanquished the other. Signs, however, of willingness to negotiate are as yet few and far between, while the number of medical men resigning club appointments which they at present hold is growing very large. The intention of medical men not to work the Act is clearly very general. A most grave responsibility consequently is thrown upon the State Sickness Insurance Committee and the Council of the British Medical Association, for upon them devolves the duty of indicating, at any rate in the first instance, what the course to be pursued shall be.

Annotations.

"Ne quid nimis."

EARLY FOG.

AMONGST the undesirable legacies which an excessively wet summer threatens to leave us is fog. The past week has furnished premonitory symptoms, and the coming winter will serve as a severe test of the contention that zeal in smoke abatement has in recent years shown signs of bearing fruit. The metropolis during the last few winters has been comparatively free from the classic or "pea-soup" variety of fog, and we trust that this freedom will continue when meteorological conditions are otherwise unfavourable. With these conditions constantly changing in the winter months the formation of mist is, of course, inevitable, and it is unpreventable by known agencies, but human effort can do much to stop the contamination of this mist with injurious and irritating products which arise out of crude methods of firing. It is evident on all sides that the gas fire is steadily replacing the coal fire for both cooking and warming purposes in the domestic household, and as further economies are effected in the production of gaseous fuel, and in the methods of burning it, we may expect a far cleaner, if at times misty, air in London during the see-saw conditions of winter weather. Methods of gas-firing have long been under a stigma owing to the defective and extravagant stoves which have been placed upon the market. The neglect to study the essential conditions under which gas could be utilised for warming the house in a healthy and satisfactory way resulted in a public prejudice which has been difficult to remove. Excellent progress has now been made. Stove-makers have found out that the defective article does not make for the success of their business, and the great gas companies have realised the necessity for a thoroughly scientific appreciation of the problems involved in gas-firing. The result is that domestic heating by means of gas appliances is being approached on right lines and with a success from a hygienic and economic standpoint which is rapidly removing the reproach which existed against such a system in former times. As this progress continues we may hope that the movement in favour of smoke abatement will realise its aims.

SUSHRUTA SAMHITA[1] (THE COMPENDIUM OF SUSHRUTA).

Sushruta was a Hindu surgeon who lived in a very early age. His work as it exists in Sanskrit is a recension by Nargajuna, a writer who is placed, by a consensus of Western opinion, in the first quarter of the third century B.C. Unfortunately, there still exists very great uncertainty with respect to the absolute and even the relative dates of the earliest Indian physicians and surgeons. According to the Indian medical tradition, the knowledge of medicine had a two-fold origin. On the one hand, it was delivered by the god Indra to the sage Bharadvaja, and by him to Atreya; on the other, it descended from Indra to Dhanvantari, and from him to Sushruta. Dr. A. F. R. Hoernle discusses the chronology of the subject in his work on the "Medicine of Ancient India," and cites a significant piece of evidence contained in the "Atharva Veda" as bearing on the very early date of both Atreya and Sushruta, whom he regards as contemporaries.

[1] Sushruta Samhita. An English Translation based on the original Sanskrit text. By Kaviraj Kunja Lal Bhishnagratna. In three volumes. Published at 10, Kashi Ghose-lane, Calcutta. Price 15 rupees (£1) per volume, or 25 rupees the set. Vol. I.

The date of the "Atharva Veda" is not known, but it belongs to the most ancient or primary Vedic literature of India, and cannot be placed later than the sixth century B.C. It contains a hymn on the creation of man, in which the several parts of the skeleton are carefully enumerated in striking agreement with the system of Atreya. The translator of the Samhita, Kaviraj Kunja Lal, after reviewing the evidence of writings and tradition, does not hesitate to place the original writing of the Sushruta Samhita at least two centuries before the birth of Buddha, but is ready to admit that the final recension by Nargajuna was made about the second century B.C. The question of the relation of Indian medicine to that of the Greeks suggests itself. Pythagoras is by some identified with Buddhagurus, a Buddhist missionary. We know that with the birth of Buddhism Buddhist Sramanas (missionaries) were sent out to Greece, Asia Minor, Egypt, and other distant countries, to preach their new religion. We know also that two Greek physicians—Ktesias, about 400 B.C., and Megasthenes, about 300 B.C.—visited or resided in North India. If there were any borrowing on the part of the Indians from the Greeks it must have taken place in the time of Hippocrates and his immediate followers—that is to say, in the second half of the fifth century B.C., but this cannot have influenced the teachings of Sushruta, to whom there is assigned an earlier origin. When it is remembered that only the bodies of young children were available for dissection to the early Indian anatomists, for the Hindu Shastras enjoin that "the bodies of persons more than two years old shall be burned," certain of the osteological anomalies of the Samhita are accounted for. There was also the intention on the part of the redactors to make fact agree with authority, and interpolations doubtless took place. Hence we have a statement in the Samhita, "There are 360 bones in the human body, so it is in the Vedas, but the science of surgery recognises 300 skeletal bones." Sushruta had what some may regard as sound views on medical politics, and his ethics were the highest, for he says, "A physician experienced in his art, but deficient in the knowledge of the science of medicine, is condemned by all good men as a quack, and deserves capital punishment at the hands of the King." Again, "The patient who may mistrust his own parents, sons, and relatives should repose an implicit faith in his own physician, and put his own life into his hands without the least apprehension of danger; hence a physician should protect his patient as his own begotten child." But it is in the chapters on reparative surgery, on hygiene and preventive medicine that he shines. His pages bear comparison with the most up-to-date treatises on those subjects. "A surgeon well versed in the knowledge of surgery should slice off a patch of living flesh from the cheek of a person devoid of ear-lobes in a manner so as to have one of its ends attached to its former seat. Then the part where the artificial ear-lobe is to be made should be slightly scarified with a knife and the living flesh, full of blood and sliced off as previously directed, should be united to it so as to resemble a natural ear-lobe in shape." "He falls an easy victim to internal and external diseases who drinks of, or bathes in, a pool of water which is full of poisonous worms, or is saturated with urine or fæcal matter or is defiled with germs of vermin or decomposed animal organisms, or is covered over with the growth of aquatic plants, or is strewn over with withered and decomposed leaves, or which in any way is rendered poisonous and contaminated, as well as he who drinks and bathes in the freshly collected water of a pool or a reservoir during the rains." With the help only of a few short extracts it is possible to convey a rough idea of the advanced state of medical and surgical science in those early days in India when Royal Universities existed at Benares and Taxilla. The serious attempt which was made to systematise the knowledge possessed, and the form and variety of the surgical instruments in use are indications that the Indians had attained a high degree of efficiency in these sciences, which we must suppose they subsequently lost, for we do not see any indications of its existence among the practitioners of native (Ayurvedic) medicine to-day.

GASTROGENIC DIARRHŒA.

THE fact that diarrhœa may be due to gastric disorder—usually deficiency of hydrochloric acid—is not so generally recognised as it should be. How the diarrhœa is produced is disputed, but it seems that the food enters the intestine insufficiently prepared by gastric digestion, and acts as an irritant. In the *American Journal of the Medical Sciences* for August Dr. D. Vander Hoof has published an important paper on gastrogenic diarrhœa, based upon a study of 500 cases, in which gastric analyses were made because of gastro-intestinal symptoms, or because this procedure seemed necessary for the purpose of diagnosis. In 81 of the cases gastric anacidity was found. In 20 of these the disease was cancer of the stomach, in 22 "neurosis," and in five chronic alcoholic gastritis. In the remaining cases the anacidity was associated with or regarded as a reflex result of the following conditions: chronic appendicitis, seven cases; cardiovascular disease and lesions of the female pelvic organs, of each four cases; cholelithiasis, three cases; pernicious anæmia, migraine, pellagra, pulmonary tuberculosis, and eye-strain, of each two cases; and hysteria, peritoneal adhesions, benign tumour of the stomach, myxœdema, chronic influenza, and aural vertigo, of each one case. Of these 81 cases, diarrhœa was a prominent symptom in 13. Diarrhœa secondary to gastric anacidity has definite clinical features, and not infrequently the diagnosis can be suspected before gastric analysis. Its most striking feature is its occurrence early in the morning and during the forenoon. This matutinal diarrhœa often awakens the patient at five or six in the morning, a second call to stool generally occurs before breakfast, and one to two or three movements take place between breakfast and the midday meal. In other cases the diarrhœa is more profuse, and before the time of luncheon as many as 15 stools may have been passed, but then the diarrhœa has generally ceased for the day. The motions are liquid and inoffensive, and contain particles of undigested food, especially fruit and vegetables. In other cases the stools are soft and yellow and show an excess of fatty acid crystals. During an exacerbation mucus and blood may be seen. Flatulence and peristaltic unrest are the rule, especially in the early morning. There may be griping pains, but these are absent in the majority of cases. Irritability of the bladder, relieved by defæcation, is not uncommon. Gastric symptoms are often absent or are overshadowed by the intestinal symptoms. The appetite is generally unimpaired, though the patient may be afraid to eat. Loss of weight and strength may quickly develop. Early in the disease the patient does not look ill, but later secondary anæmia may develop and even a blood condition indistinguishable from that of pernicious anæmia. In most cases indicanuria is pronounced. If a test-meal be given the stomach empties itself so quickly that often nothing remains after the lapse of an hour. This is due to the absence of the "acid control" reflexly exerted over the pylorus by the first part of the duodenum. The stomach tube should be passed 40 to 45 minutes after a test breakfast. The material obtained has a characteristic gross appearance. The bread particles are coarsely divided, and show no evidence of digestion, and the fluid portion is clear, thin, and colourless. Free hydrochloric acid is absent, and the total acidity is usually below 10. The treatment consists in

the administration of large amounts of hydrochloric acid. The usual dose of 10 drops of the dilute acid is not sufficient. As the mucous membrane of the throat will tolerate only a weak solution the acid must be well diluted. Dr. Vander Hoof usually gives 30 drops of dilute hydrochloric acid in a glassful of water half an hour after meals, and repeats the dose in half an hour, thus making a total of 180 drops daily. To stimulate the gastric glands to resume their function full doses of tincture of nux vomica should be given before meals, which should begin with strong meat broths. The food should be well salted so that there may be ample chlorine for the production of hydrochloric acid. The amount of protein given should be restricted. Buttermilk is a valuable article of diet, and most patients can take three pints daily. If the general nutrition is much impaired and is associated, as it usually is, with visceroptosis and possibly motor insufficiency of the stomach, recumbency on the right side after meals is beneficial.

THE PLAGUE SITUATION AT PORTO RICO.

SINCE we drew attention on August 10th in these columns to the appearance of plague in several of the West Indian Islands, and more particularly to the outbreaks in Porto Rico and Cuba, the situation has become somewhat more favourable, for in the latter island no new cases have been reported, while in the former only scattered instances have come under observation. From June to Sept. 10th (the latest date for which official figures are at present available) there have been notified in Porto Rico some 56 plague cases, 31 of which had a fatal termination. The large majority of these attacks were referred to the municipality of San Juan, which includes Puerta de Tierra and Santurce, as well as the old city of San Juan, and there can be no doubt that the disease is still smouldering in the municipality, since seven fresh cases were notified during the first ten days of September. Outside San Juan no new cases have been reported since July 19th. Although local rats have been coincidently suffering from an epizootic of plague in Porto Rico the number of infected animals discovered has not been great, for out of 12,233 rodents examined up to the end of August only 60 yielded evidence of plague infection. Most of the affected rats were caught within the borders of the San Juan municipality, but about a dozen or more were found 13 miles away at the town of Carolina where two human cases were also notified, and two other infected animals were discovered on board a ship in port. The medical officers of the United States Public Health Service in charge of the antiplague measures at Porto Rico are of opinion that the outbreak is now well under control, and that the number of infected rats remaining must be very small. Meanwhile great progress is being made in San Juan in rendering houses rat-proof and in enforcing the compulsory provision by occupiers of metal receptacles for garbage with proper covers, so that rats cannot find access to them. The origin of this outbreak has not been definitely traced, but a fresh suggestion as to this has been put forward in the *New York Medical Record* of August 31st. Blame is being cast upon the Government of Spain for having deliberately concealed the fact that plague had been occurring recently in one of their possessions—namely, the Canary Islands—which are in communication with West Indian ports by shipping. Some confirmation of this view seems to be afforded by Dr. Mario Lebredo, chief of the Havana Research Laboratory, who as medical commissioner for the Government of Cuba has lately been visiting Spain and some of its dependencies. In his opinion, the infection of plague was in all probability brought to Cuba and Porto Rico by Spanish ships from Teneriffe or other of the Canary Islands; and the neglect of the Spanish authorities to notify the presence of plague in any of their ports led to the admission of certain vessels from the infected places into West Indian ports without restrictions and without enforcement of any of the usual precautionary measures against imported infection. It is alleged that the instruction given by the Spanish Government to the local authorities was that they were to fight the disease by every modern method known to science, but they were at the same time to deny emphatically the existence of plague in any part of the Canary Islands. How far this allegation is justified we are unable at present to judge. So far as is known the infection of plague has not extended from Porto Rico or Cuba to any of the ports in the Mexican Gulf, or along the Atlantic coast, though many of these ports are admitted to be in an unsatisfactory condition and quite unable to resist successfully the importation of plague if called upon to do so. Up to the present time no infected rats have been discovered in any of these ports, except that on the river front at New Orleans a single affected rat was found out of 3345 examined up to Sept. 4th for this purpose. The officers of the United States Public Health Service, the Louisiana State Board of Health, and the New Orleans City Board continue to coöperate in rat destruction in the port of New Orleans and along the Mississippi river front, and for the laboratory examination of these rodents to detect the presence of plague; similar measures are also being carried out at other American ports. As regards the possible extension of plague in the near future to the United States, the danger for the present seems to have been dealt with in a satisfactory manner. In addition to the risks arising from plague at Porto Rico it has to be remembered that for some time plague has been threatening the United States from quite another quarter. In certain districts near the coast of California plague has for some years existed among the ground squirrels which infest that region, and week by week infected animals are caught. From April to August of the present year nearly 1000 plague-infected ground squirrels have been discovered in the two Californian counties of Contra Costa and Almeda. Experts have stated that it is necessary to maintain a ground squirrel-free zone around such cities as San Francisco and Oakland lest these animals infect the local rats, and thus give rise to a human epidemic in the cities. The last human plague case in California occurred in July, 1911.

PROGRESSIVE SPINAL AMYOTROPHY ARISING FROM MUSCULAR STRAIN.

IN the current number of the *Deutsche Zeitschrift für Nervenheilkunde* is a paper by the veteran neurologist, Professor Wilhelm Erb, of Heidelberg, which, apart from its intrinsic interest, is of importance from the point of view of workmen's compensation. A healthy young vineyard labourer, aged 31, with a clean record of previous health, was engaged on April 7th, 1910, in cutting, or rather pruning, the branches of vines, using for the purpose a large pair of shears; these he held in his right hand, although he was left-handed. He happened to come to a branch which was unusually thick, some three centimetres in diameter, and, making a sudden powerful muscular effort to cut it through, he immediately felt a violent pain in the ball of the right thumb, against which the handle of the shears was being pressed. This rendered his right arm and hand useless for a time, and for the rest of the day he worked with the left hand instead. There was no indication of any local lesion in the right hand, and with suitable treatment the pain disappeared after a week or ten days. Though the patient thereafter resumed work with the right hand, he was conscious that the right arm was not quite so strong as

before, and in the course of two or three months it became definitely weak, and the muscles of the right hand began gradually to waste. The symptoms steadily increased in intensity. While there was neither pain nor objective alteration in sensibility, the muscle wasting later involved the forearm and upper arm, and when he was seen by Professor Erb towards the end of 1911 there was a fully developed progressive spinal amyotrophy in the right upper extremity, with main-en-griffe, weakness and wasting of the extensors of wrist and fingers, also of the flexors and supinator longus to a less extent, and some weakness and wasting of the biceps, triceps, and deltoid. In a word, there could be no doubt as to the diagnosis, the symptoms being typical of that disease. The question of the relation of the injury to the subsequent paralysis is discussed with conspicuous lucidity and fairness by Professor Erb, and in view of his great experience his conclusions are calculated to carry weight. While admitting that it is impossible to prove a causal connexion between the two in the sense of proving a mathematical proposition, he is strongly of the opinion that it can be said to be exceedingly probable. He holds that in this case a violent muscular effort, in an arm already tired by two hours' arduous work, set up a molecular or chemical change, from which the nerve tissues did not immediately recover, so that as a result of further use of the same muscles in similar work a gradual structural change commenced and finally established itself. He thinks it unnecessary and confusing to postulate a special "predisposition" to nervous disease, or to a special nervous affection, in such a case, and thus ranges himself as a partisan of the well-known "Aufbrauchshypothese" of Edinger, which he thinks is a sufficient explanation of the facts. On his advice the labourer was awarded compensation. There is a valuable summary of all the reported cases of progressive muscular atrophy following trauma, many of which are rejected as not standing full criticism. A few remain where trauma, either a physical shock or a sudden muscular strain, may definitely be said to have initiated the progressive lesion. One of these is reported by Ottendorff, where a perfectly healthy man aged 28, clutching violently at a support as a ladder on which he was standing slipped from beneath him, sustained a severe muscular strain in both arms, and in the course of a week or two found that they were becoming weak, with pains and paresthesiæ. In a few months a typical amyotrophic lateral sclerosis had set in, with wasting of the interossei, and so on. Cases of this description, carefully investigated and judiciously considered, are of great value for the neurologist and medical expert.

HELIOTHERAPY IN LARYNGEAL TUBERCULOSIS.

THE good effects obtained by French writers from heliotherapy in surgical tuberculosis [1] and in tuberculous peritonitis [2] have recently been described in our columns. In the *Progrès Médical* of Sept. 21st the results obtained in laryngeal tuberculosis by several French surgeons are mentioned. M. Collet, of Lyons, has successfully treated three cases. He turns the patients towards the sun with the mouth open so that the rays received on a laryngeal mirror, placed in the throat and controlled by means of a looking-glass, are reflected into the larynx. The head and eyes are protected by a large hat and dark glasses. The *séances* were frequently interrupted, and amounted at first to half an hour in the day, later to an hour. The first patient treated has been completely cured and has remained so for six years. He suffered from enormous infiltration of the epiglottis, arytenoids, and ventricular bands. The dysphagia disappeared in ten days. M. R. Alexandre first used the method just described, but abandoned it because he found it painful. He now places the patient with his back to the sun and reflects the rays on the laryngeal mirror from a concave mirror. By means of a plane mirror the patients ensure that the rays are properly reflected into the larynx. This they quickly and easily learn to do. There is a central aperture in the concave mirror by which the surgeon can observe that the method is being properly carried out. The laryngeal and concave mirrors are made of silver. The *séances* at first are of five minutes' duration, and are gradually lengthened to half an hour and an hour, with numerous pauses. They are given twice daily. M. Labouré, of Cannes, uses an artificial light obtained from an arc lamp. The good results obtained by these different observers are remarkable. A most beneficial effect is exerted on tuberculous ulcers and tumours. In the case of red diffuse infiltrations care is necessary because they may be aggravated. This treatment of laryngeal tuberculosis was first brought forward in 1904 by a German physician to a sanatorium, Dr. Sorgo. Though the opportunities for heliotherapy are not so great in this country as on the continent, it seems well deserving of a trial.

[1] THE LANCET, April 6th, 1912, p. 958.
[2] Ibid., April 27th, p. 1143.

HÆMATEMESIS DUE TO ARTERIO-SCLEROSIS OF THE GASTRIC VESSELS.

THOUGH the dependence of cerebral hæmorrhage on arterial disease is well known, hæmorrhage in other parts of the body is scarcely ever attributed to this cause. In the *Gazette Hebdomadaire des Sciences Médicales de Bordeaux* of July 21st, M. Emile Bitot and M. Félix Papin have reported two cases of hæmatemesis due to gastric arterio-sclerosis—a cause so little recognised that they could find only 13 recorded cases, all published in continental journals. In 1876 Gallard reported two cases of fulminating hæmatemesis in which at the necropsy there was found gastric ulceration due to rupture of a miliary aneurysm on a sclerosed coronary artery. In 1892 Sachs published the case of a man, aged 79 years, who died from hæmatemesis.[1] At the necropsy a ruptured miliary aneurysm was found near the lesser curvature of the stomach. The following is an outline of the cases now reported. A man, aged 60 years, was admitted into hospital on June 13th, 1908. In 1899 he began to suffer from dyspepsia, with acid regurgitation. In 1900 he was awakened one morning by profuse hæmatemesis, soon had an urgent call to stool, and passed a liquid motion containing black blood. He was taken to a hospital, where he remained four and a half months and lost much flesh. Two other attacks of hæmatemesis followed, and after the second he underwent laparotomy. Five days afterwards he was attacked with acute abdominal pain and vomiting, and gastro-enterostomy was performed. He recovered completely and remained in good health until April, 1908, when the hæmatemesis recurred. On examination he was anæmic and very emaciated. The stomach and liver were tender on pressure. The radial and temporal arteries were hard, like pipe-stems. Auscultation of the heart showed cardiac sclerosis and aortic insufficiency. Under medical treatment he recovered and was able to resume work. Hæmatemesis due to arterio-sclerosis was diagnosed. The surgeon who performed the gastro-enterostomy was written to, and he stated that he found nothing definite at the operation—perhaps a little induration of the pyloric region, which suggested the possibility of syphilis. In March, June, September, and November, 1909, hæmatemesis with

[1] Deutsche Medicinische Wochenschrift, May 19th, 1892.

melæna recurred. In the last attack, which was severe, the patient died. The necropsy showed atheroma of the aorta and sclerosed kidneys. The orifice of the gastro-enterostomy was perfect and admitted the index finger. The surface of the stomach was normal and showed neither ulcer nor scar. There were two small areas of hæmorrhagic effusion resembling post-mortem lesions. In the second case the patient was a man, aged 50 years, who contracted syphilis 30 years before and still gave a positive Wassermann reaction. At the age of 27 he was suddenly attacked with profuse hæmatemesis. There had been no previous gastric symptoms. After this he suffered from pains in the stomach, which usually came on some hours after food and ceased after vomiting. He often noticed in the stools blackish matter like coffee grounds. The pains and melæna persisted, with remissions, until the age of 50 years, when there occurred a second attack of hæmatemesis, resembling the first in its spontaneity and abundance. He was admitted into hospital, treated with potassium iodide, and recovered. During the next five years he suffered from gastric symptoms and lost flesh. In 1911 abundant hæmatemesis suddenly recurred, and he was admitted into hospital under the care of M. Bitot. He was pale and wasted. The second aortic sound was ringing and the superficial arteries were thickened. The stomach was slightly dilated and a test-meal gave a practically normal result. During his stay in hospital several slight attacks of hæmatemesis occurred. Gastroscopy was performed by Professor Moure, and showed the absence of a round ulcer or tumour. The mucous membrane was congested, the vessels were dilated and sinuous, and near the altered vessels were small ulcerations, which on later examinations were found cicatrised. The recorded cases of hæmatemesis due to arterio-sclerosis show that ulceration of the mucous membrane may accompany the vascular changes or be entirely absent. The hæmorrhage may come from an arteriole which presents an aneurysmal dilatation or from one which does not. The bleeding vessel may be in the centre or at the edge of an ulcer, or the blood may issue from a non-ulcerated surface. The hæmorrhage may occur at any part of the stomach, but the region supplied by the coronary artery is the principal source. As to the etiology, alcoholism and syphilis have been frequently invoked. The patients are usually aged and manifest the signs of arterio-sclerosis. However, as shown above, cases have been observed in younger persons. Hirschfeld reported the case of a man who suffered from hæmatemesis since the age of 16 and died in an attack at the age of 38. The necropsy revealed marked sclerosis of the gastric arteries, one of which showed a small aneurysmal dilatation. Neither the aorta nor the radial artery showed any sclerosis. The hæmatemesis is almost always profuse. Gastro-enterostomy may be useful, as is shown in the case related above. Although the patient succumbed in the end he enjoyed good health after the operation for seven years.

SUBCUTANEOUS EMPHYSEMA IN LABOUR.

RUPTURE of some of the air vesicles in the lungs during parturition, with the development of surgical emphysema, is an accident of some rarity, and it is not mentioned in many of the more recent text-books on obstetric medicine. It was, however, well known to the older writers, and cases have been published from time to time in the medical journals. An interesting case of this kind is recorded by Dr. C. Willett Cunnington in our present issue. In this instance the patient, as in nearly all the other recorded cases, was a primipara, the characteristic swelling of the face, the neck, and the upper part of the chest commenced towards the end of the second stage of labour, and the labour pains were strong and associated with a good deal of straining. The true cause of the swelling of the tissues is readily recognised on palpation by the characteristic crackling produced by the surgical emphysema present. The accident, as a rule, is not associated with any bad results, and the swelling usually disappears within from seven to ten days. A case somewhat similar to that related by Dr. Cunnington was recorded by Mr. A. Prince in THE LANCET of Jan. 15th, 1876, p. 117, in which the upper part of the patient's body, a primipara, is said to have become swollen to twice its natural size, and the woman suffered from considerable oppression of breathing for two or three days. Blundell thought that the condition was produced by the "disruption of the larger air tubes," and describes the appearance of the patient as follows: "After much exertion the face and neck swell, from the hurrying of the circulation an erythematous flush of the integuments is produced, and at first glance the patient appears to labour under a sudden attack of erysipelas, the nature of the swelling manifesting itself on making an examination by the usual crepitus perceived on compressing and lightly shampooing the skin with the tips of the fingers." In the majority of the cases it is, however, probable that the air vesicles themselves give way and not any of the bronchial tubes, and the air, escaping into the mediastinum, passes out into the subcutaneous tissues of the head and neck. The women are usually young, vigorous, and with no disease of the pulmonary organs. An emphysema of this character is of quite a different nature to that seen in cases of rupture of the uterus and infiltration of the tissues of the anterior abdominal wall with air, due, in all probability, to the invasion of the subperitoneal connective tissues by the gas-producing bacillus aerogenes capsulatus. In 1874 Haultcoeur collected 13 cases of emphysema commencing during the course of labour, and in their "Practical Midwifery," 1858, Sinclair and Johnston record seven cases occurring among 13,718 births. The accident is, as a rule, devoid of danger to the mother unless a pneumothorax develops at the same time. No treatment is necessary.

DOUBLE DISLOCATION OF THE HIP.

IN the present issue of THE LANCET we publish an account of a case in which a man was knocked down by a motor car and suffered double dislocation of the hip, and we are glad that Dr. A. F. S. Sladden has thought well to report the case, for it is an accident of extreme rarity. Dislocation of the hip is always an unusual injury, for the head of the femur is held in the acetabulum by a combination of ligamentous and muscular structures which exert a great resistance against any force that would tend to separate the bones, while the shape of the articular surfaces makes a displacement very unlikely to happen. Since the hip is so constituted that an enormous force is required to separate the bony surfaces that form it, fracture of the femur is by far more likely to occur, and so it comes to pass that for most periods of life there is more probability that the femur will be broken than that dislocation of the hip will occur; for both in the young and in the old the joint structures are stronger than the bone, and therefore the bone gives way; in the young because the bone has not yet attained its full strength, and in the old because it has lost the strength it once possessed. Dislocation of the hip, therefore, is more likely to occur in middle life than at any other time of life, and, moreover, even during the middle period of life severe external violence is more likely to be encountered, especially in men. Further, not only must there be a special relation between the strength of the joint structures and the strength of the femur, but the limb must be in a position in which dislocation is possible

when the severe force is applied. There is not entire unanimity amongst surgeons as to the exact position of the femur which may give rise to a dislocation, but it seems to be certain that the most favourable position exists when flexion and abduction are combined with rotation inwards, for then the back of the capsule becomes much stretched, and a sudden application of a great force will suffice to displace the bone. From all these well-known considerations it becomes clear that if dislocation of a single hip is rare, dislocation of both hips at the same time will be very much rarer. The number of cases in which this double lesion has occurred is very small indeed. In order that a simultaneous dislocation of both hips should occur there must be a most unusual combination of conditions, for not only must the age of the patient be suitable for such an injury, but the position of both thighs must be such as to permit the displacement, and at the same time a sufficiently severe force must be applied in a direction which will produce the displacement. In the case which Dr. Sladden has reported the injury was produced by a motor car hitting the patient in the sacral region as he was cycling; in cycling there would be some abduction, and flexion and rotation inwards may also be present, thus all the conditions considered necessary would be present. In another case of simultaneous dislocation of both femurs a sailor was sitting astride a floating plank when a wave suddenly forced him upwards against a cross beam which struck his back violently, and both femurs were displaced into the obturator foramen. In this case the abduction of the thighs was produced by the plank, and the flexion by the sitting posture. In most cases of double dislocation of the hip the head of the femur occupies a different position on the two sides, but exceptionally both dislocations may be symmetrical. In Dr. Sladden's case there was a dorsal dislocation on one side and a sciatic dislocation on the other.

SPIRAL FORMATIONS IN THE HUMAN BODY.

THERE have lately appeared in our contemporary the *Field*, from the able pen of Isaac Bikerstaffe, a remarkable series of articles[1] dealing with the spiral structures which are found throughout the animal and vegetable kingdoms. The most recent of the series is likely to prove of particular interest to readers of THE LANCET, for it deals with those organs or parts of the human body which manifest a spiral conformation. The list of such structures in the human body is more extensive than is usually believed, several examples given by the writer in the *Field* being often overlooked. The first example cited is the spiral arrangement of the trabeculæ of long bones, the recent research of Professor A. F. Dixon on the finer structure of the human femur supplying the necessary data. The spiral arrangement of the vessels of the umbilical cord and of the canals of the cochlea are classical examples; the ventricles of the heart provide another well-known instance with which the name of the late Professor Pettigrew is naturally associated—as indeed it must be with any inquiry into the significance of spiral formations. The spiral arrangement of the ducts of sweat glands, of the lines in certain types of finger-prints, and of the muscular fibres in certain of the finer arterioles (a discovery made by Lord Lister while examining the vessels of the frog's web) are less known examples. The spiral arrangement of the great arteries springing from the heart (the form being reversed when the viscera are transposed), the spiral valve of the cystic duct, the spiral twist in the ribs and certain other bones are also dealt with. While in some cases the spiral arrangement gives a manifest mechanical or functional advantage, in other cases its significance is obscure or unknown. The writer in the *Field* has ransacked Nature's treasuries and brought together, from every kind of living thing, the most striking examples where growth has developed in a spiral form. So many brilliant minds have fluttered in vain round the dazzling and fascinating problem of spirals that most inquirers, unless they are expert mathematicians, consign them to that lumber room of the mind where time and space and other limitless and unprofitable thoughts are buried. Isaac Bikerstaffe, however, has courage; he does not pretend to have solved the problem of spirals in Nature. He simply sees in such formations that there is a deep problem, which if it could be solved would throw a light on many of the dark corners relating to our knowledge of the laws of growth and development. He has done biologists a service in bringing together the facts on which all endeavours to solve the biological significance of spiral formations and their relationship to growth and development must be based. We sincerely trust that these articles, which have been submitted in the first place to the readers of the *Field*, may be issued in book form, and be thus more accessible to biologists in particular and to that part of the general public which is interested in one of Nature's most fascinating puzzles.

[1] Some Principles of Growth and Beauty, by Isaac Bikerstaffe, The Field, Part I., May 11th, 1912. Part XIII., Spiral Formations in the Human Body, Oct. 5th, 1912.

THE SURGEON IN CHIEF TO THE METROPOLITAN POLICE OFFICE.

THE regretted death of Mr. Clinton Dent has left vacant the important post of surgeon in chief to the Metropolitan Police Office. The position is a coveted one, and there will be no lack of candidates for an appointment which has been held in the past by distinguished surgeons. We understand that applications for the post received up to Oct. 21st, or thereabouts, will come into consideration.

THE 140th session of the Medical Society of London will open on Monday evening next, Oct. 14th. The general meeting will be held at 8 o'clock, and the new President, Sir W. Watson Cheyne, will deliver his introductory address at 8.30. This will be followed by a paper on a Case of Anæmia of the Pernicious Type with Acholuric Jaundice, by Dr. F. J. Poynton and Mr. H. C. G. Pedler. On Oct. 28th communications relating to Hedonal Anæsthesia will be brought forward; and on Nov. 11th a discussion on Respiratory Neuroses will be opened by Dr. Samuel West. A discussion on Intestinal Stasis, to be introduced by Mr. Arbuthnot Lane, is announced for Dec. 9th and 16th.

THE next meeting of the Royal Microscopical Society, which is to take the form of a conversazione, will be held on Wednesday, Oct. 16th, at 8 P.M. precisely, at King's College, Strand, W.C.

A CENTENARIAN.—Mrs. Mary Neighbour, who was in her 104th year, died at Sunningdale on Sept. 25th. She was born at Chobham, Surrey, married at the age of 19, and had 13 children. Of these five survive, the eldest son being 81 years of age.

DONATIONS AND BEQUESTS.—The Swansea General Hospital will receive £10,000 under the will of the late Mr. W. G. Vivian.—By the will of the late Mr. Hans G. Schintz the Royal Liverpool Country Hospital for Children, the Liverpool Royal Southern Hospital, and the Liverpool Home for Incurables will each receive £3000, and the Liverpool Hospital for Women and the Liverpool Royal Infirmary £2000 each.—The Chelsea Hospital for Women has received £52 10*s.* towards its rebuilding fund from Messrs. David Sassoon and Co., Limited.

THE RELATION TO LONDON OF THE MENTAL DEFICIENCY BILL, 1912.

ACTING under authority from the London County Council before the adjournment for the summer recess, the Parliamentary Committee has decided to seek certain amendments to the Mental Deficiency Bill now before Parliament. In connexion therewith the committee has issued a report summarising the views of the various committees of the Council affected by the measure.

Existing Provision in London.

The Education Committee mentioned the steps that have been taken in London already to deal with mentally defective children. In March, 1891, the School Board decided to establish special schools for those children who, by reason of physical and mental defect, could not be taught "in the ordinary standards or by ordinary methods." In addition to providing special schools, the late authority urged upon the Board of Education from time to time the desirability of legislation on the subject, and the Elementary Education (Defective and Epileptic Children) Act, 1899, was the outcome. Approximately, 1 per cent. of the elementary school pupils fell within the definition of "defective" laid down by the Act of 1899. This Act did not give sufficient powers for dealing adequately with the mentally defective, because it was a permissive one; it lacked powers of compulsion as regards residential treatment, and its powers did not extend beyond the age of 16 years. It had also been thought desirable that a single central authority should control and care for the mentally defective in order to avoid overlapping of authorities and conflicting medical certificates, and that an adequate measure of financial assistance from the Imperial Exchequer should accompany any extension of administrative machinery for dealing with the matter. On March 31st, 1911, there were 90 schools for the mentally defective in London, with accommodation for 6632 children. The number on the roll on the date named was 7142, with an average attendance of 5983. Twelve of these schools were specially fitted up for the instruction of elder boys only, and mixed classes were taught in the remainder. The total cost of maintenance for the year 1910–11 was £66,530, or £99,480 if capital charges were included.

Suggested Enlargement of the Scope of the Bill.

Proceeding to discuss in detail the provisions of the Mental Deficiency Bill the Committee said the clause rendering certain defective children liable to institutional treatment for an indefinite period after leaving the special school might in some instances cause parents to object to the admission of their children to special schools. Thus an increased number of parents might become actively hostile to special school treatment. On the other hand, the segregation of certain defectives in institutions and the prohibition of marriage with a defective should tend to diminish the number of children requiring treatment in special schools. The Education Committee did not think even the somewhat elaborate definition in the Bill of the term "defectives" sufficiently wide because epileptics and persons with dual defects did not come specifically within the category. Neither were morally defective educable children under 16 or other educable children who required residential treatment included as defectives, and such children could not therefore be compulsorily detained in institutions—a point on which the Council had laid considerable stress. Clause 24, which made it permissive for an education authority to deal with defectives under the Bill, the committee thought should be a compulsory clause. As to Clause 25, providing that parents or guardians of defectives under 21 might place them in institutions for defectives or under guardianship upon the certificate of a duly qualified medical practitioner, and that such defective might be retained after the age of 21, the committee did not consider sufficient safeguards were provided in that a certificate of only one medical practitioner was necessary, and that the local authority had no power under the clause. It should be amended to provide for notification to the local authority of any action taken in this respect.

Questions of Cost.

With reference to the clause providing for a Government grant of £150,000 towards the cost of the measure, the Parliamentary Committee pointed out that according to the figures furnished to the Royal Commission on the Care and Control of the Feeble-minded, the total number of defective persons was about 1 per cent. of the population; about one-half was already provided for by asylums, &c., and rather less than half of the remainder required to be dealt with. On this basis there would be in London some 9000 persons to be provided for, but the proportion of the Government grant would only supply about 7*s.* a week in respect of 930 persons, or roughly one-tenth of the number of persons concerned. It appeared to the committee that the Government grant must of necessity be increased ultimately. The obligation on local authorities to provide accommodation for any mentally defective person was to cease if the contribution from Imperial funds in respect of such person was less than 7*s.* per week, but on this point the Finance Committee expressed the opinion that notwithstanding the limitation of the obligation imposed on local authorities, it was difficult to see how, in practice, the local authority could avoid exercising its full powers under the Bill by withholding institutional treatment with regard to all known defectives requiring such treatment, even failing the prescribed minimum Treasury contribution. The committee suggested that steps should be taken to secure that the Government contribution towards institutional treatment should be forthcoming in respect of every defective person so dealt with. The present average weekly cost (including debt charges) of dealing with pauper lunatics in London was 15*s.* 2*d.*, and the cost of dealing with a mentally defective person would be about the same, so that it appeared very doubtful whether a grant of 7*s.* a week a person would be sufficient to meet one-half the cost as recommended by the Royal Commission.

Proposed Amendments of the Bill.

The Asylums Committee was of opinion that amendments should be sought in the Bill (1) to define what was to constitute residence for the purpose of ascertaining the chargeability of a mentally defective person; (2) to provide that in no case should a judicial authority be empowered to make an order for the detention of a mentally defective person unless such person had been medically examined; (3) to make it clear whether all institutions, including those provided by local authorities, were to be certified; (4) to provide that the clause making it a misdemeanour for any person to intermarry or attempt to intermarry with a defective, or connive at such a marriage, should apply only to defectives who were subject to be dealt with under the Bill. The Parliamentary Committee agreed with the first three points, but considered it undesirable to take the action suggested in (4). The committee saw no reason why, if a defective came within the terms of the definition in the Bill, intermarriage should be allowed even if the defective was not liable to be dealt with under the Bill.

The Parliamentary Committee will now seek amendments of the Mental Deficiency Bill as follows:—

1. That the provision of special schools for defective children should be compulsory.
2. That the scope of the Bill should be extended to include epileptics, persons with dual defects, &c.
3. That the local education authority should be empowered to require the local authority to deal with defectives attaining the age of 16.
4. That the local education authority should retain the supervision of defective children up to the age of 18.

Financial Considerations Involved.

On these proposed amendments the Finance Committee stated that as to the first, so far as London was concerned, the machinery existed and was now being used for discovering what children of school age were defective. If the Act of 1899 was made compulsory no additional financial responsibility would be placed upon the Council beyond that involved in exercising to the full its present optional powers. The second amendment had for its object the inclusion of certain classes of defectives in the scope of the Bill. Should it be found that these children could only be dealt with satisfactorily by institutional treatment the cost to the Council would probably amount to from £40 to £50 a child, including debt charges, according to the size and character of the school, or a total of £24,000 to £30,000 a year, exclusive of capital charges. It was proposed apparently to recommend the inclusion of adult defectives within the scope of the measure. In the report of the Royal Commission on the Feeble-minded it was stated that about one in a thousand of the population was a sane epileptic, so that

on this basis in the county of London there might be between 5000 and 6000 of these cases. Applying the figures of the cost of maintenance of lunatics (about 15*s.* a week) the Council's expenditure for, say, 4000 epileptics would reach perhaps about £150,000 a year, and if the Government's grant of 7*s.* a week were paid the net charge falling upon the Council would be reduced to, say, £80,000.

As regards the desire of the Education Committee to preserve supervision over defective children up to the age of 18 years, this might involve periodical visits to some 2000 children annually. It was unlikely that the supervision of such children could be satisfactorily accomplished with the existing staff, and additional expenditure without doubt would be incurred. The amount would depend on whether it would be possible to utilise the services of a lay inspectorate, leaving a medical inspection for doubtful cases, or whether in each and every case the inspection should be made by a doctor. If the former method were adopted the expense would probably be from £750 to £1000 a year. The effect of the proposals might be to throw upon the Council additional yearly expenditure of any amount from about £87,000 to about £191,000.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Autumn Course of Museum Demonstrations.

THE following arrangements have been made for the autumn course of demonstrations of specimens contained in the Museum of the Royal College of Surgeons, which are intended for advanced students and medical practitioners, and which are to be given in the theatre of the College in Lincoln's Inn Fields. On Oct. 18th Professor Arthur Keith, Conservator, will demonstrate on specimens recently added to the collection, including those of (1) skeleton of a boy who suffered from the disease described by Mr. Hastings Gilford under the name of progeria; (2) skeleton of a child the subject of infantilism; and (3) other specimens of surgical interest exhibiting defective growth. On Oct. 25th he will describe the following new additions: specimen illustrating the result in a case where the condition of imperforate anus was unrelieved; specimens illustrating the comparative anatomy of the prostate; sexual organs of eunuchs; and undescended testicles; and on Nov. 1st specimens illustrating the comparative anatomy of the cæcum and appendix, of the gall-bladder, of the thyroid, and of the tonsil. On Oct. 21st and 28th Mr. S. G. Shattock, pathological curator, will demonstrate on specimens illustrating diseases of the genito-urinary organs, and on Nov. 4th on specimens illustrating diseases of the ductless glands. On Oct. 23rd Mr. J. F. Colyer, honorary curator of the odontological collection, will describe John Hunter's specimens illustrating the formation and growth of teeth, and on Nov. 30th on John Hunter's specimens illustrating the natural history of the human teeth. On March 6th he will also describe some specimens illustrating periodontal disease as seen in man, wild animals in captivity, and domesticated animals. The demonstrations to be delivered by Professor Keith and Mr. Shattock will commence each day at 5 P.M., and those by Mr. Colyer at 5.30 P.M.

The New Calendar.

The Council of the Royal College of Surgeons of England has published a new edition of the College Calendar for the year 1912–13. There are now 1526 names on the Fellows' list who obtained the qualification by examination, 29 who have been elected as Members of 20 years' standing, 5 "Fellows by election," 1 elected "ad eundem," and 1 by examination under the Medical Act of 1876, making a total of 1562, as against 1518 last year. The Members' list now contains 17,062 names, an increase of 133 compared with those of last year, while the list of Licentiates in Dental Surgery shows an increase of 97. One lady, Miss Davies-Colley, obtained the Fellowship by examination during the year, and was the first of her sex to attain the honour. There are now five ladies on the roll of Members, and three hold the Diploma in Public Health which is granted jointly with the Royal College of Physicians. No lady student has, as yet, obtained the College Diploma in dental surgery. Dr. Peter Redfern, of Belfast, still appears to be the oldest Fellow, and Surgeon-Major H. B. Hinton, of Genelg, South Australia, the oldest Member. The Calendar contains an analysis of the returns of the several examinations held during the year, the secretary's report of the Council's proceedings, special reports by the conservator of the Museum and the librarian, a statement of the receipts and expenditure of the College, together with full particulars of the various College prizes.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 95 largest English towns, with an aggregate population estimated at 17,639,881 persons at the middle of this year, 7933 births and 4153 deaths were registered during the week ending Oct. 5th. The annual rate of mortality in these towns, which had been 11·0, 11·6, and 11·9 per 1000 in the three preceding weeks, further rose to 12·3 per 1000 in the week under notice. During the 13 weeks of the quarter ended with September the mean annual rate of mortality in these towns averaged 11·4 per 1000, against 11·5 per 1000 in London during the same period. The annual death-rates in the several towns last week ranged from 4·9 in Gillingham, 5·3 in Walthamstow, 5·4 in Enfield, 5·7 in Smethwick, and 5·8 in Bournemouth, to 16·5 in Liverpool, 16·6 in Oxford, 16·7 in Stoke-on-Trent, 17·1 in Middlesbrough, 17·7 in Preston, and 18·5 in Grimsby.

The 4153 deaths from all causes in the 95 towns were 143 more than the number in the previous week, and included 352 which were referred to the principal epidemic diseases, against 358 and 310 in the two preceding weeks. Of these 352 deaths, 153 resulted from infantile diarrhœal diseases, 90 from measles, 43 from diphtheria, 29 from whooping-cough, 20 from enteric fever, and 17 from scarlet fever, but not one from small-pox. The mean annual death-rate from these epidemic diseases last week was equal to 1·0 per 1000, against 1·1 and 0·9 in the two preceding weeks. The deaths of infants under 2 years of age attributed to diarrhœa and enteritis, which had been 143, 150, and 134 in the three preceding weeks, rose again to 153 last week; of this number, 46 were recorded in London and its suburban districts, 18 in Liverpool, 8 in Sheffield, 6 in Hull, 4 each in Stoke-on-Trent, Birkenhead, Manchester, and Preston, and 3 each in Bolton and Salford. The deaths referred to measles, which had been 74, 85, and 67 in the three preceding weeks, rose to 90 last week, and caused the highest annual death-rates of 1·3 in Devonport and in Swansea, 1·6 in Birkenhead, 1·9 in Merthyr Tydfil, and 2·7 in Grimsby. The fatal cases of whooping-cough, which had been 42, 49, and 44 in the three preceding weeks, fell to 29 last week, and included 10 in London and its 14 suburban districts, and 2 each in Nottingham, Liverpool, Manchester, and Newcastle-on-Tyne. The deaths attributed to diphtheria, which had increased from 23 to 41 in the five preceding weeks, further rose to 43 last week, and included 14 in London and its suburban districts, 5 in Birmingham, 3 each in Manchester and in Leeds, and 2 each in Wolverhampton and in Barrow-in-Furness. The fatal cases of enteric fever, which had declined from 20 to 7 in the four preceding weeks, rose again to 20 last week, and included 6 in London and its suburban districts, and 2 in Liverpool. The deaths from scarlet fever, which had been 18, 24, and 17 in the three preceding weeks, were again 17 last week, and included 3 in London and its suburban districts, 3 in Birmingham, and 3 in Liverpool.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and in the London Fever Hospital, which had steadily risen from 1512 to 1871 in the six preceding weeks, further rose to 1995 on Saturday last; 317 new cases of this disease were admitted to these institutions during the week, against 281, 311, and 305 in the three preceding weeks. These hospitals also contained on Saturday last 935 cases of diphtheria, 417 of measles, 281 of whooping-cough, and 52 of enteric fever, but not one of small-pox. The 1150 deaths from all causes in London were 92 more than the number in the previous week, and were equal to an annual death-rate of 13·3 per 1000. The deaths referred to diseases of the respiratory system, which had been 103, 140, and 169 in the

three preceding weeks, further rose to 191 last week, and were 19 above the number registered in the corresponding week of last year.

Of the 4153 deaths from all causes in the 95 towns last week, 181 resulted from different forms of violence, and 351 were the subject of coroners' inquests. The causes of 36, or 0·9 per cent., of the deaths registered were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Manchester, Sheffield, Leeds, Bristol, West Ham, Bradford, and Hull, and in 65 other smaller towns. The 38 uncertified causes of death last week included 8 in Birmingham, 3 each in Liverpool, Preston, and Hull, and 2 each in London and Gateshead.

HEALTH OF SCOTCH TOWNS.

In the 18 largest Scotch towns, with an aggregate population estimated at 2,182,400 persons at the middle of this year, 1059 births and 544 deaths were registered during the week ended Sept. 28th. The annual rate of mortality in these towns, which had been 12·7, 12·4, and 13·8 per 1000 in the preceding three weeks, declined to 13·0 per 1000 in the week under notice. During the 13 weeks of the quarter just ended the mean annual death-rate in these Scotch towns averaged 13·2 per 1000, against 11·4 per 1000 in the 95 large English towns. Among the several Scotch towns the annual death-rates ranged from 5·3 in Hamilton, 6·5 in Clydebank, and 7·5 in Motherwell, to 17·0 in Dundee, 17·2 in Greenock, and 17·7 in Coatbridge.

The 544 deaths from all causes were 32 fewer than the number in the previous week, and included 29 which were referred to the principal epidemic diseases, against numbers declining from 59 to 35 in the four preceding weeks. Of these 29 deaths, 12 resulted from infantile diarrhœal diseases, 7 from diphtheria, 5 from scarlet fever, 3 from whooping-cough, 1 from enteric fever, and 1 from measles, but not one from small-pox. These 29 deaths from the principal epidemic diseases were equal to an annual death-rate of 0·7 per 1000, against 0·9 per 1000 in the 95 large English towns. The deaths of infants under 2 years of age attributed to diarrhœa and enteritis, which had declined from 30 to 13 in the three preceding weeks, were 12 in the week under notice, and included 7 in Glasgow and 2 in Dundee. The deaths referred to diphtheria, which had been 9, 8, and 5 in the three preceding weeks, rose to 7, of which number 2 were registered in Glasgow and 2 in Edinburgh. The fatal cases of scarlet fever, which had averaged 2 in the three preceding weeks, rose to 5 in the week under notice, and comprised 3 in Falkirk and 2 in Motherwell. The deaths attributed to whooping-cough, which had been 9 in each of the three preceding weeks, fell to 3, and included 2 in Aberdeen and 1 in Edinburgh. The deaths referred to enteric fever and measles occurred in Glasgow.

The deaths referred to diseases of the respiratory system in the 18 Scotch towns, which had increased from 59 to 74 in the preceding three weeks, fell to 68 in the week under notice; 16 deaths resulted from different forms of violence, against 17 and 30 in the two previous weeks.

In the 18 largest Scotch towns, with an aggregate population estimated at 2,182,400 persons at the middle of this year, 1025 births and 509 deaths were registered during the week ending Oct. 5th. The annual rate of mortality in these towns, which had been 12·4, 13·8, and 13·0 in the preceding three weeks, fell to 12·2 per 1000 in the week under notice. Among the several Scotch towns the annual death-rates last week ranged from 5·2 in Kirkcaldy, 7·1 in Coatbridge, and 7·6 in Partick, to 14·5 in Hamilton, 15·9 in Perth, and 23·3 in Ayr.

The 509 deaths from all causes were 35 below the number in the previous week, and included 36 which were referred to the principal epidemic diseases, against numbers declining from 41 to 29 in the three preceding weeks. Of these 36 deaths, 15 resulted from infantile diarrhœal diseases, 10 from diphtheria, 7 from scarlet fever, and 4 from whooping-cough, but not one from measles, enteric fever, or small-pox. The 36 deaths from the principal epidemic diseases were equal to an annual rate of 0·9 per 1000, against 1·0 in the 95 large English towns. The deaths of infants under 2 years of age attributed to diarrhœa and enteritis, which had been 19, 13, and 12 in the preceding three weeks, rose slightly to 15 last week, and included 5 in Dundee, 4 in Glasgow, and 2 in Edinburgh. The deaths referred to diphtheria, which had been 8, 5, and 7 in the preceding three weeks, further rose to 10 last week, and included 6 in Glasgow and 2 in Edinburgh. The fatal cases of scarlet fever, which had successively risen from 1 to 3 and 5 in the preceding three weeks, further rose to 7 last week, and included 4 in Glasgow.

The deaths referred to diseases of the respiratory system in the 18 Scotch towns, which had been 61, 74, and 68 in the preceding three weeks, fell to 62 in the week under notice. 30 deaths were attributed to different forms of violence, against 30 and 16 in the two previous weeks.

HEALTH OF IRISH TOWNS.

In the 22 town districts of Ireland, having an aggregate population estimated at 1,154,150 persons at the middle of this year, 677 births and 342 deaths were registered during the week ending Oct. 5th. The annual rate of mortality in these towns, which had been 14·2, 14·7, and 14·5 per 1000 in the three preceding weeks, rose to 15·5 per 1000 in the week under notice. During the 13 weeks of the quarter ended with September the mean annual death-rate in these Irish towns averaged 14·5 per 1000; in the 95 large English towns the corresponding death-rate did not exceed 11·4, while in the 18 Scotch towns it was equal to 13·2 per 1000. The annual death-rate in the several Irish towns last week was equal to 16·4 in Dublin (against 13·3 in London), 14·9 in Belfast, 17·7 in Cork, 10·2 in Londonderry, 33·8 in Limerick, and 19·0 in Waterford, while in the remaining 16 smaller towns the mean death-rate was 10·3 per 1000.

The 342 deaths from all causes in the 22 Irish towns were 21 more than the number in the previous week, and included 34 which were referred to the principal epidemic diseases, against 27 and 26 in the two previous weeks; of these 34 deaths, 13 resulted from diarrhœal diseases, 12 from measles, 3 each from scarlet fever and from whooping-cough, 2 from enteric fever, and 1 from diphtheria. These 34 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·5 per 1000; in the 95 large English towns the death-rate from these diseases last week did not exceed 1·0 per 1000, while in the 18 Scotch towns it was equal to 0·9 per 1000. The deaths attributed to diarrhœa and enteritis, which had been 11, 10, and 11 in the three preceding weeks, were 13 last week, of which number 12 related to children under 2 years of age; 9 deaths were registered in Belfast. The deaths from measles, which had been 1, 3, and 5 in the three preceding weeks, further rose to 12 last week, and included 7 in Limerick, 3 in Belfast, and 2 in Dublin. The 3 deaths from scarlet fever were slightly below the average in the four preceding weeks; 2 of them were registered in Belfast. The 3 deaths from whooping-cough were also slightly below the average; 2 of them occurred in Dublin. The 2 fatal cases of enteric fever and the death from diphtheria also occurred in the same town.

The deaths referred to diseases of the respiratory organs in the 22 towns, which had been 41, 51, and 53 in the preceding three weeks, declined to 49 in the week under notice. Of the 342 deaths from all causes, 118, or 35 per cent., occurred in public institutions, and 11 resulted from different forms of violence. The causes of 20, or 5·9 per cent., of the total deaths registered were not certified either by a registered medical practitioner or by a coroner after inquest; in the 95 large English towns the proportion of uncertified deaths last week did not exceed 0·9 per cent.

GUY'S HOSPITAL.—The following scholarships have been awarded:—Open Scholarship in Dental Mechanics of the value of £20: William James McBain Allan, a pupil of Mr. E. A. Tomes, L.D.S. Eng., of East Dulwich-road, S.E., and Arthur Edmund Lowein, a pupil of Mr. G. A. Wood, L.D.S. Edin., of Gainsborough, were bracketed equal and awarded £10 each. The Scholarship in Dental Mechanics for pupils of Guy's Hospital: George Hubert Howe and Charles Hardiman Laver (equal), £10 each.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Order in Council of April 1st, 1881, Staff-Surgeon George Ross has been allowed to withdraw from His Majesty's Naval Service with a gratuity (dated Oct. 1st, 1912).

Surgeon John Herbert McDowall has been promoted to the rank of Staff-Surgeon in His Majesty's Fleet (dated May 23rd, 1912).

The following appointments have been notified:—Fleet-Surgeons: A. H. Jeremy to the *Implacable*; and C. J. E. Cock to the *Dominion*, on recommissioning. Staff-Surgeons: A. C. Bean and C. K. Bushe, both to the *Britannia*, on recommissioning; and A. J. Sheldon to the *King Alfred*, additional, for 2nd and 3rd Fleets. Surgeons: M. W. Haydon to the *Dominion*, on recommissioning; W. E. Lloyd to the *Pembroke*, additional, for disposal; and E. M. W. Hearn to the *Ganges*, for Shotley Barracks and for Physical Training.

ROYAL ARMY MEDICAL CORPS.

Captain Roderick McK. Skinner to be Major (dated Oct. 2nd, 1912).

Surgeon-General L. E. Anderson has been selected for appointment as Deputy Director of Medical Services to the Irish Command, in succession to Surgeon-General G. D. Bourke, C.B.

Colonel B. M. Skinner, M.V.O., has been appointed Commandant and Director of Studies at the Royal Army Medical College, in succession to Colonel E. J. E. Risk. Colonel E. Lynden-Bell has taken up duty as Assistant Director of Medical Services to the London District, in succession to Colonel W. G. A. Bedford, C.M.G.

Lieutenant-Colonel B. J. Inniss has been placed under orders for a tour of service with the Northern Army in India. Lieutenant-Colonel E. G. Browne, commanding the Military Hospital at Delhi, has been appointed Honorary Surgeon to the Viceroy and Governor-General of the East Indies, in succession to Surgeon-General A. T. Sloggett, C.B., C.M.G., appointed Honorary Surgeon to His Majesty the King. Lieutenant-Colonel C. A. Lane has been appointed to command the Station Hospital at Madras. Lieutenant-Colonel M. O'Halloran has been appointed to hold charge of the Military Hospital at Edinburgh, vice Colonel S. Westcott, C.M.G., appointed Assistant Director of Medical Services to the Portsmouth District. Lieutenant-Colonel R. J. Windle has been placed under orders for a tour of service with the Southern Army in India.

Major J. W. Langstaff has been transferred from the Aldershot Command to the London District. Major E. P. Connolly has taken up duty at the Military Hospital, Kuldana, Murree Hills, on transfer from Gharial Cantonment. Major S. de C. O'Grady, in medical charge at Kasr-el-Nil, Cairo, has arrived home on leave of absence from Egypt. Major E. T. F. Birrell has been appointed for temporary duty in the London District pending embarkation for service abroad. Major J. C. B. Statham, clinical pathologist at the Queen Alexandra Military Hospital, London, has been succeeded by Captain A. B. Smallman from the Royal Army Medical College. An exchange on the roster for service abroad has been sanctioned by the Director-General between Major J. E. Hodgson, at present holding medical charge of Wellington Barracks, London, and Major H. W. K. Read; the latter officer will now proceed to India for duty with the Southern Army. Major H. Ensor, D.S.O., has been posted to the Eastern Command for duty at the Royal Herbert Hospital, Woolwich. Major S. W. Sweetnam has been transferred from the Military Hospital at Kirkee to Aden for a tour of service. Major E. E. Ellery, specialist in operative surgery at Cairo, has arrived home on leave of absence from Egypt. Major F. M. Mangin, specialist in ophthalmology at Aldershot, has been placed under orders for a tour of service in India during the coming trooping season with the Northern Army. Major G. Dansey-Browning has been selected for appointment as Specialist Sanitary Officer at Gibraltar, in succession to Major C. E. P. Fowler. Major W. S. Crosthwait has been placed under orders for embarkation to India. Major M. H. G. Fell has taken up the appointment of Deputy Assistant Director-General at the War Office, in succession to Major E. T. F. Birrell.

Captain A. E. S. Irvine, in medical charge at Simonstown, has arrived home on leave of absence from South Africa. Captain C. H. Turner, at present serving at the Military Hospital, Curragh Camp, has been selected for appointment as Specialist in Operative Surgery to the Royal Infirmary, Phœnix Park, Dublin, in succession to Captain W. D. C. Kelly, whose tenure of the appointment has expired. Captain F. W. W. Dawson has been transferred from the Military Hospital at Ambala Cantonment to Kasauli. Captain B. H. V. Dunbar has joined at Mosney. Captain T. J. Wright has taken up duty at Aldershot on transfer from Bordon. Captain J. A. Anderson has arrived home tour expired from South Africa. Captain C. J. Wyatt has been appointed for duty to Languard Fort. Captain H. E. Priestly, on return from Gibraltar, has been appointed to hold Medical Charge at Box Camp. Captain D. H. C. MacArthur has been transferred from the Military Hospital at Ambala Cantonment to Dalhousie. Captain E. C. Phelan has joined the Station Hospital at Darjeeling for duty. Captain G. W. G. Hughes has been transferred from Bradford to Strensall. Captain S. L. Pallant has been appointed to hold Medical Charge at Wedgnock Park on transfer from the Royal Victoria Hospital at Netley.

Lieutenant E. L. Fyffe, stationed at the Military Hospital at Cork, has been placed under orders to embark for service with the Southern Army in India. Lieutenant K. Comyn has been transferred from Brighton to the Military Hospital at Shorncliffe for duty. Lieutenant F. A. Robinson, on termination of duty at Oranmore Camp, has been appointed to the Military Hospital, the Curragh. Lieutenant J. K. Gaunt, Moore Park, has been placed under orders to embark for a tour of service at Malta.

INDIAN MEDICAL SERVICE.

The King has approved of the promotion of the following officers of the Indian Army, Indian Medical Service:—Majors to be Lieutenant-Colonels (dated July 27th, 1912): Patrick Balfour Haig, Ralph Henry Maddox, Edward Victor Hugo, Harry George Melville, Herbert Austen Smith, Douglas Richard Green, George McIver Campbell Smith, Joseph George Hulbert, Francis Edward Swinton, Sidney Harvey Burnett, Thomas Jackson, Pulteney Charles Gabbett, and John Lewis Macrae.

Lieutenant to be Captain: Robert Inglis Binning (dated July 31st, 1912).

The King has approved of the retirement of the undermentioned officers: Lieutenant-Colonel Douglas Richard Green (dated August 1st, 1912). Lieutenant-Colonel Edward Richard William Charles Carroll (dated August 25th, 1912). Lieutenant-Colonel Clarence Edwin Lloyd Gilbert (dated Sept. 21st, 1912).

Lieutenant-Colonel C. H. James, C.I.E., medical adviser to the Maharajah of Patiala, has been appointed to officiate as Civil Surgeon at Simla West during the absence on leave of Lieutenant-Colonel C. Duer. Lieutenant-Colonel W. C. Carroll has arrived home on leave of absence from India. The services of Lieutenant-Colonel J. C. White, sanitary commissioner in the United Provinces of Agra and Oudh, have been replaced at the disposal of the Government of India, Department of Education.

Major M. Corry has been selected for appointment as Officiating Professor of Forensic Medicine and Toxicology at the Government Medical College, Lahore, in succession to Major E. S. Peck granted leave of absence. Major R. W. Anthony has been appointed Civil Surgeon at Dharwar. The services of Major E. L. Perry have been replaced at the disposal of the Government of the Punjab. Major J. H. Hugo, D.S.O., second-class agency surgeon, Bengal Presidency, has been granted furlough for one year, combined with privilege leave for two months and 18 days. The services of Major E. L. Ward, superintendent of the Central Jail at Lahore, have been placed at the disposal of the Home Department of the Government of India. Major G. Bidie has arrived home on leave of absence from India.

Captain A. W. Cook Young, specialist in the prevention of disease to the Bannu Brigade of the Northern Army, has been selected for appointment as Special Medical Officer of Health at Delhi. Captain J. W. Burnett has been granted an extension of his leave of absence. Captain C. I. Brierley, on return from leave of absence, has been appointed Civil Surgeon at the Khyber. Captain E. W. C. Bradfield has been appointed District Medical Officer at Tinnevelly. Captain J. R. J. Tyrrell, officiating second-class agency surgeon, has

been granted one year's furlough, combined with privilege leave and study leave, home from India. Captain M. F. Reaney has taken up duty as Civil Surgeon at Akola in the Central Provinces. Captain W. Lapseley has returned to India on the expiration of his leave of absence. Captain R. Markham Carter has been appointed to Bombay for civil employment. Captain C. L. Dunn has taken up duty as Officiating Deputy Sanitary Commissioner in the United Provinces of Agra and Oudh. Captain W. A. Mearns has arrived home on leave of absence from India.

Lieutenant C. H. Smith has been selected for appointment by the Director-General of the Indian Medical Service as Specialist in Advanced Operative Surgery.

TERRITORIAL FORCE.

Royal Army Medical Corps.

1st Southern General Hospital, Royal Army Medical Corps: Lieutenant-Colonel George J. Lloyd, from the permanent personnel, on completion of his period of service in command, to be Lieutenant-Colonel, whose services will be available on mobilisation (dated July 1st, 1912). Lieutenant-Colonel Frank Marsh, from the list of officers whose services will be available on mobilisation, to be Lieutenant-Colonel on the permanent personnel (dated July 1st, 1912).

Attached to Units other than Medical Units.—Captain James M. Duncan to be Major (dated July 4th, 1912).

DEATHS IN THE SERVICES.

Inspector-General Sir Herbert Mackay Ellis, R.N., K.C.B., LL.D., J.P., Inspector-General of Hospitals and Fleets, on Sept. 30th, at Weybridge, aged 61. He entered the service as surgeon in 1875 and served through the Egyptian campaign of 1882, being attached to a battalion of the Royal Marine Artillery. He was present at the two engagements at Kassassin and at the battle of Tel-el-Kebir (mentioned in despatches, Egyptian medal with clasp for Tel-el-Kebir and Khedive's bronze star). He was promoted to staff-surgeon, and later, in 1891, he became fleet-surgeon, and served on board the *Victoria*, the flagship of Sir George Tryon, which was sunk in a collision with the *Camperdown* on June 22nd, 1893. He became Deputy Inspector-General in 1899, and in 1904 he was appointed Inspector-General of Hospitals and Fleets, becoming in the same year Director-General of the Medical Department of the Navy, which post he held till 1908, when he retired. In 1907 he was made a K.C.B. Sir Herbert Mackay Ellis was an honorary physician to King Edward VII. from 1905 to 1910 and afterwards to King George.

Deputy Surgeon-General T. J. Crowley, R.N., at Thames Ditton, on Oct. 5th. He entered the service in 1883, becoming staff-surgeon in 1895, and fleet-surgeon in 1899. In 1905 he was appointed to the *Impregnable* training ship for boys, and subsequently to the *Ganges* at Harwich. He held the position of Deputy Director-General.

APPOINTMENTS AS ACTING SURGEONS IN THE ROYAL NAVY.

At the examination for the Naval Medical Service held on Sept. 30th and Oct. 1st, 2nd, and 3rd, 10 candidates were successful, and obtained marks as follows:—

	Marks.
A. E. Malone, Dublin University	1663
H. M. Whelan, University College, Cardiff, and London Hospital	1558
R. F. P. Cory, St. Thomas's Hospital	1543
H. St. C. Colson, Westminster Hospital	1503
P. L. Gibson, King's College Hospital	1485
G. A. Finegan, University College, Cork	1390
F. St. B. Wickham, St. Mary's Hospital	1285
J. T. D. S. Higgins, Trinity College, Dublin	1258
J. G. Boal, Edinburgh University	1208
S. Punch, University College, Cork	1200

The highest possible number of marks was 2400.

ARCHIVES DE MÉDECINE ET PHARMACIE NAVALES.

In the July number Médecin Principal (Fleet-Surgeon) Dr. Vergues reports 8 per cent. cases of aural inflammations (external, middle, and internal ear) in the 654 cases of typhoid fever which were treated in the Naval Hospital at Cherbourg during nine years. Middle-ear disease and mastoid abscess accompany one another very frequently. He never found the bacillus typhosus in the pus from any of his cases. Médecin Principal Dr. Duranton describes how in the cruiser *Kléber* in the East he found that the temperature of the condenser and dynamo rooms had been raised 5° to 10° F. by ill-planned artificial ventilation because the fans had been wrongly placed, with outlets too high up in the compartments and inlets which did not necessarily admit only fresh air. By getting an order that natural ventilation only should be employed at sea he secured the cooling from about 120° F. to 110°. Médecin de 1re classe (Staff-Surgeon) Dr. J. Gachet reports the removal of a goitre of the base of the tongue by a submaxillary incision. Surgeon Dr. Violle reports on an epidemic of bacillary dysentery (origin not identified) occurring at Cherbourg, probably last autumn. There was usually a leucocytosis of 13,000, and many polymorphonuclears were found in the stools; from these no dysenteric bacilli were recovered, the cultures becoming immediately overgrown by B. coli. The epidemic, under careful regulations, ceased in the garrison in a month, but did not die out for another two months. The general mortality was some 20 per cent., but none of the 80 cases treated by "the serum of Dopter" died; all recovered. Dosage from 1 to 5 ounces according to the severity of the symptoms. There follows a long, detailed and appreciative review of the work done by the English Admiralty Commission on Deep Diving quoted from the Italian naval medical reports.

Correspondence.

"Audi alteram partem."

THE BELL-MAGENDIE CONTROVERSY.

To the Editor of THE LANCET.

SIR,—Dr. Waller, in his reply to my article in THE LANCET of July 27th, where I give evidence from John Shaw's article on Partial Paralysis, states that this was published in 1823, and John Shaw may have added to the paper after Magendie's publication. Fortunately for Shaw's reputation I am able to refute this. On opening Vol. XII. of the Medico-Chirurgical Transactions the following can be read: "Advertisement. It has been resolved by the President and Council that the society shall publish half yearly—namely, on July 1st and Feb. 1st—such papers as shall have been ordered by the Council for publication." It will be seen that the volume is divided into two parts, which were published separately, and a paper read on June 25th, 1822, is in the second and not in the first part. It will be noticed that there is a paper by Charles Bell in Part I., and on the plate is: "London, published 1822 by Messrs. Longman, Hurst, Rees, Orme, and Brown." On each of the plates of Part II. there is the same statement, but with 1823 instead of 1822.

I would much rather have written in support of Dr. Waller's views than against them, as I am personally much indebted to Dr. Waller. For this reason I was certainly not biassed in favour of Bell when I read Shaw's paper. Shaw plainly states that the portio dura of the seventh is a motor nerve. On p. 138 Shaw states: "I recollect some years ago, in the removal of a tumour from before the ear, the moment the branches of the portio dura were cut the girl called out, 'Oh, I cannot shut my eye.' The cause of this, though obscure at the time, must now be evident." Dr. Waller states that only apart from their context and as coloured by Dr. Edridge-Green can the statements on pp. 139 and 141 be made to bear any significance at all. I contend that the whole statement is far more strongly in favour of my view than the extract; in fact, I do not see how it can bear any other interpretation. It will be noticed that the small extract given by Dr. Waller could be interpreted on his view.

Page 139: An important question connected with this subject remains undecided: whether the portio dura, when cut, is ever reunited so as to be capable of again performing its peculiar functions. In two experiments of cutting the portio dura, which I have already made on a dog and a monkey, the power over the muscles of the face was, in the course of a few months much restored, while, in another dog, the paralysis of the respiratory muscles was as complete at the end of four months as on the day after the operation. But as none of these experiments were made with a view to determine the question of the reunion of nerves, I was not particular in the manner of dividing the nerve. M. Magendie, in his journal for January, 1822, makes the following remarks upon the result of these experiments. "Cette différence dans les deux résultats porte à croire que dans la première opération la section des nerfs n'a pas été complette: j'ai chez moi maintenant un chien sur lequel j'ai practiqué cette double section, il y a plus des six semaines, les effets sont encore à peu près ce qu'ils etaient le jour de l'expérience."

Page 141: It is almost needless to state that there are often certain tumours before the ear, the extirpation of which is so necessary, that in such cases the paralysis must be considered of minor importance. However, if we have an accurate knowledge of the small nerves which pass from before the ear to the mouth and nostril, we may, in extirpating tumours from the cheek, preserve these twigs, and thus

avoid substituting distortion for the slight deformity caused by the tumour which we wished to remove; a result which has hitherto frequently followed operations on the face, in consequence of our proceeding on the old idea, that although the parts might be deprived of the supply of nerves from the portio dura, they would still receive sufficient nervous influence from those of the fifth pair.

It will be noticed that Magendie also recognised through Shaw the motor character of the portio dura.

Dr. Waller has made much of my statement that perhaps the alterations to which he has drawn attention might have been made by an assistant who corrected the proofs. If Bell made these corrections he certainly should not have done so, but in view of the evidence which I have given they have very little bearing on the subject, and probably for this reason have been overlooked. The evidence I gave showed that Dr. Waller's interpretations were not correct. Bell in his book of 1811 states: "From the medullary matter of the hemispheres, again, there pass down, converging to the crura, striæ, which is the medullary matter taking upon it the character of a nerve, for from the crura cerebri, or its prolongation in the anterior fasciculi of the spinal marrow, go off the nerves of motion." When we read Shaw's article we see why Bell makes no statement as to which root come off the nerves of sensation. Because a man has claimed more than he should claim, that is no reason for depriving him of the credit which he does deserve.

Professor Max Neuberger has stated that Sir Charles Bell's "Idea of a New Anatomy of the Brain" is a scientific document of fundamental importance, and the same opinion was held by Johannes Müller. I think few would agree with Dr. Waller that it is of very little scientific value. On reading Bell's book (1811) it was evident to me that more should be claimed for Bell than had already been done—namely, that the law which is known as Müller's law of the specificity of the sense organs was clearly stated first by Bell. I find that Ebstein[1] has stated that Müller's law ought to be called Bell's law. Personally, I regard Bell's book (1811) as the starting point of a new era of physiology.

I am, Sir, yours faithfully,

F. W. EDRIDGE-GREEN.

The Institute of Physiology, University College, London, Oct. 2th, 1912.

To the Editor of THE LANCET.

SIR,—Professor Keith is mistaken in his belief that I claim him as a convert; I merely pointed out that the phraseology of his Struthers lecture involved an acknowledgment which Professor Keith now assures us was unintentional. The phrases quoted by Professor Keith show clearly enough that he has shifted his ground, and does not now reaffirm the assertion that Sir Charles Bell discovered the motor and sensory functions of the nerve roots.

Professor Keith's vague suggestion as to the probability of my fairness and accuracy in reading and quoting the scientific publications of Sir Charles Bell requires no answer. I should, of course, instantly acknowledge any specific inaccuracy if such were pointed out to me; but a general and indefinite suggestion of inaccuracy is outside the bounds of fair argument.

Professor Keith declares his reliance upon the opinions of Dr. Edridge-Green. It would be interesting to know whether he follows Dr. Edridge-Green in the opinion that the differences between Bell's two texts of 1821 and 1824 (quoted on p. 904 of THE LANCET of Sept. 28th) are, as Dr. Edridge-Green puts it, "unimportant corrections made by an assistant to whom Bell had delegated the task of correcting the proofs and had passed unnoticed by Bell himself."

I am, Sir, yours faithfully,

Oct 8th, 1912. A. D. WALLER.

OPERATIVE TREATMENT OF THE ORCHITIS DUE TO MUMPS.

To the Editor of THE LANCET.

SIR,—As a corollary to the annotation under the above heading in THE LANCET of Sept. 28th, p. 895, I should like to draw the attention of your readers to the respectable antiquity of operative interference in acute swellings of the testis.

As long ago as 1863 Henry Smith, of King's College Hospital, operated by incision of the testis for gonorrhœal epididymo-orchitis, publishing his results in THE LANCET of August 6th, 1864, and stating then that he had discovered his treatment had already been anticipated, and was the routine at the Hôpital de Midi in Paris. In England this form of treatment seems, however, never to have taken firm root, possibly due to accidental infections in those pre-Listerian days. In France, on the other hand, it would appear never to have quite died out—Vidal (de Casis), Velpeau, Monod, and Terillon having employed it. Trekaki[1] and Baermann[2] brought it again into prominence; but it is chiefly due to Dr. Hagner, of Washington, and Dr. G. G. Smith that the subject has been kept before the English-speaking public.[3] Its importance lies in the strong suspicion that in cases treated by the expectant method the particular testis involved is rendered sterile, and in the rare cases where both are involved absolute sterility results.

I am, Sir, yours faithfully,

J. JOHNSTON ABRAHAM, F.R.C.S. Eng.

Wimpole-street, W., Oct. 5th, 1912.

[1] Zeitschrift für Neurologie und Psychologie, 1912, p. 520.

[1] Gazette Médicale de Paris, April 16th, 1892.
[2] Deutsche Medicinische Wochenschrift, Oct. 1st, 1903.
[3] Vide The Hospital, April 6th, 1912.

THE MEDICAL REGISTER.

To the Editor of THE LANCET.

SIR,—I shall be greatly obliged for your help in reminding the members of the medical profession of the importance of keeping an address in the Medical Register which will form a safe channel of communication. The onus of notifying changes lies upon the practitioners themselves, and, though every possible effort is made to remind them of this, and to trace them when touch has been lost, it is often impossible to get into communication with them.

Representations have been made to the Registrar-General, to the Board of Trade, and to other Government departments, with the result that the Register is officially consulted far more often than it used to be. This affords protection to the public and to the profession alike, but any practitioner who has allowed his name to lapse from the Register may find himself temporarily much inconvenienced. I shall be glad to hear from anyone who has doubts as to the accuracy of his address, and all communications will be acknowledged.

I also wish to remind practitioners that the Medical Register is the only official publication, and that the entry of name therein alone confers any legal privileges; it should not be confused with any of the directories which issue circulars every year.—I am, Sir, yours faithfully,

NORMAN C. KING, Registrar.

General Medical Council Office, 299, Oxford-street, London, W., Sept. 25th, 1912.

ALUMINIUM COOKING UTENSILS.

To the Editor of THE LANCET.

SIR,—I have been following the correspondence originated regarding the above by a letter by a Dr. Snow in the *Daily Chronicle*, but I did not dream that his letter would be taken seriously by anyone accustomed to use aluminium cooking utensils. However, as a number of customers have written to my company quoting Dr. Snow's letter, and as the doctor has apparently not yet found out his error, I trust you will excuse my asking you to favour me with a little space.

Dr. Snow's original letter seems to have been written on the spur of the moment, with not the slightest attempt to verify an assumption grounded on the by no means infallible sense of taste alone. In this letter Dr. Snow also suggests that "I cannot doubt that your readers will be able to present similar instances of such highly dangerous chemical decomposition resulting in injury to health, if not even to loss of life."

In a letter published in the *Ironmonger* of Sept. 28th Dr. Snow again refers to his faith in detection of poisonous nature by the tongue alone, and obviously has not attempted any other diagnosis. While he gives in this letter the disclaimer (which we fully accept without cavil) that "beyond the question of public health I am not interested in aluminium cooking utensils," his whole contention is based on his sense of taste alone, and backed by hypothetical and total imaginary instances; his use, moreover, in the two letters referred to, of clauses qualified by the words "I cannot doubt," "I believe," "it is notorious," &c.,

are samples of that hearsay evidence never admitted in a court of law, and equally unpardonable from a medical or technical adviser of the public.

In place of the customary disclaimer of pecuniary interest I freely admit that I *am* interested in the manufacture of aluminium cooking utensils, and by them I get my living, but I put it to you and your readers, Sir, and also to Dr. Snow, that the word "manufacturer" is not synonymous with "impostor" or "swindler," and that the tests he suggests as desirable "to settle the question" were made long before, and in a very much more thorough manner, than the breakfast dish experiment of Sept. 10th.

While affirming that—and I am backed up in this by gentlemen of far greater chemical knowledge than my own—it is absolutely impossible to produce aluminium chloride ($Al_2 Cl_6$) by the action of salt on aluminium, will Dr. Snow not admit that in this instance his somewhat hasty diagnosis has been at fault?

I am, Sir, yours faithfully,

HERBERT J. BUBB,
Managing Director, the Aluminium Castings Co., Limited.

Ingleston Foundry, Greenock, Oct. 3rd, 1912.

THE PROPHYLACTIC USE OF X RAYS BEFORE AND AFTER OPERATION FOR MALIGNANT DISEASE.

To the Editor of THE LANCET.

SIR,—The question raised by Dr. Robert Knox in his paper on the above subject, which appeared in THE LANCET of Sept. 14th, p. 753, of how we can prove the value of post-operative X ray treatment, also his plea for the coöperation of the operating surgeon, are subjects that are deserving of close consideration, having regard to what has been accomplished in this direction up to the present time.

Mr. A. Heygate Vernon, senior surgeon to the Royal West Hants and Boscombe Hospital, was, I believe, the first to adopt this method himself, some seven years ago, on a scirrhus of the breast that he had some time previously radically extirpated, and in which the well-known nodular recurrence had taken place both in the axilla and at the mammary site. The patient was exhibited by him at a meeting of the Bournemouth Medical Society where I saw her. There was a marked subsidence in one and a disappearance in the other of the two situations referred to as a result of X ray irradiations. He has since then again contributed to this subject at the recent spring meeting of the Dorset and West Hants branch of the British Medical Association, when an interesting discussion took place. In 1907 at the spring meeting of this branch I read a paper on the Analogy between Spontaneous Recoveries from Cancer and the Specific Immunity Induced by X Ray Irradiation of the Lymphatic Glands Involved.[1] Of the four cases then reported five years have elapsed, and two of them, the medical man and the clergyman, have been free from recurrence and are still going strong. The two others succumbed after considerable palliation. As Dr. Knox entertains some doubts regarding the production of immunity by the induction of auto-vaccination in the radiotherapy of the infectious processes, and he considers that this has yet to be proved, I beg to refer him to the contribution by Herr von Baisch in the *Berliner Klinische Wochenschrift*, Oct. 30th, 1911.

I am, Sir, yours faithfully,

Harley-street, W., Sept. 21st, 1912. H. D. MCCULLOCH.

SYPHILITIC PULMONARY FIBROSIS.

To the Editor of THE LANCET.

SIR,—The Report on an Inquiry into the Prevalence of Syphilis in the South African Native, by Mr. B. G. Brock, of Germiston, Transvaal, published in THE LANCET of May 11th, 1912, p. 1270, is spoken of by Major H. C. French in THE LANCET of July 27th, p. 227, as extremely valuable and interesting. To my mind it is of sufficient importance to call for further comment.

A fibrosis of the lung as a result of syphilis, persisting in such an enormous proportion of natives as that indicated by Mr. Brock's statistics, is a new fact so far as I am aware in the epidemiology of that disease, and although the lesion has been noted before by Major French "as a cause of death in malignant syphilis," this does not in the least affect the truth of Mr. Brock's statement that "in the literature of the subject the condition of the lung referred to is hardly mentioned in any text-books or monograph on syphilis or tuberculosis," nor does it detract from the credit which is due to him as the first to draw attention to its frequency in the syphilitic native.

The significance of syphilitic pulmonary fibrosis as a factor in the etiology of tuberculosis is revealed by these investigations in quite a new and remarkable light. For although in a general way syphilis, like other debilitating diseases, was known to be a predisposing cause of tuberculosis, such striking proof of its evil influence in this direction as that contained in Mr. Brock's "Report" has surely never previously been offered.

But Mr. Brock's observations and conclusions, besides having this scientific interest, are also very important from the economic and the humanitarian point of view. If it be the case, as his statistics appear to prove, that the greater number of natives recruited for work in the Witwatersrand Gold Mines are the subjects of this fibrosis, and, further, if for this reason these natives fall victims to tuberculosis to the startling extent and with the appalling rapidity he believes, it is quite clear that prompt measures should be taken to put an end to such a terrible state of affairs. Should such a result be the outcome of Mr. Brock's researches he will have deserved well of humanity.

I am, Sir, yours faithfully,

Oct. 5th, 1912. A PHYSICIAN.

[1] Brit. Med. Jour., Oct. 17th, 1908.

THE MEDICAL PROFESSION AND THE NATIONAL INSURANCE ACT.

To the Editor of THE LANCET.

SIR,—As negotiations are so far broken off between the Representatives of medical men and the Government as to the scale of remuneration for services under the Insurance Act, it seems desirable in the interests of the public that an end should be put to this *impasse*.

A general desire exists that a way be found to form a correct estimate of the situation, so that a sum may be mutually adopted.

I have therefore put down a question on the paper of the House to the Chancellor, which, if granted, will enable Parliament to judge on the facts presented. The question is this:—

"To ask the Chancellor of the Exchequer whether, in view of the general desire throughout the country to secure a settlement of the scale of remuneration for medical services under the Insurance Act, he will consider, on request being made, the appointment of a Select Committee to take evidence and report to this House as to what would be adequate remuneration for the doctors."

I am, Sir, yours faithfully,

House of Commons, Oct. 8th, 1912. NORVAL W. HELME.

To the Editor of THE LANCET.

SIR,—Your correspondent, "M.D.," gives a curious reason for recommending capitation payment as preferable to payment for work done, and, if I mistake not, Dr. Benjamin Moore, of Liverpool, has suggested much the same thing. If I understand him, he says that owing to prophylactic measures that are so much in vogue, the health of the community in the future is likely to be so much improved that the services of the doctor will be not nearly so much required as at present. Therefore, by capitation payment the practitioner will receive much better remuneration than by payment for items of attendance. Is this reasoning sound? Capitation rates will always be reckoned on the basis of the average of the services of the doctor required annually. If the services are diminished by change in the incidence of disease in the community down will go the capitation rates. So that whether the doctor's remuneration is by capitation or special fees what is "sauce for the goose is sauce for the gander." If it were not so, the prospect would not be particularly alluring. It is hardly consistent with the dignity of the profession to become pensioners of the community and be paid wages they do not earn. If the happy Hygeia of the future is attained it would mean reduction in the number of

doctors. We should have to find some other way of gaining an honest living. Few I think would deem it honourable to accept capitation payment for no other reason than because it afforded a good opportunity of being paid for work *not* done. No doubt there is a necessity for a certain amount of contract practice, but the more it is curtailed the better for the public and the profession. Let it not be forgotten that true freedom of choice of doctor is inconsistent with every form of contract practice. If payment for attendance on the sick is to be made up out of small regular contributions from those in health, a certain number must be guaranteed to each doctor to give him a "living wage." It is impossible for this to be done without encroachment on the principle of free choice of doctor. The difficulty of the "living wage" is best got over by a National Medical Service—though that is about the only good that can be said of it—but it is total abnegation of free choice of doctor. The recent meeting of Mr. Lloyd George with the lay members of the Advisory Committee, and what took place there, shows that a National Medical Service is a card that might not unlikely be played in event of the profession declining to accept the proffered terms. It is consoling, however, to think that if a united profession can frustrate the present scheme, it can equally render a National Medical Service impossible. If the attempt were to be made, it would further show how hollow the protest that the money required to meet the demands of the profession it is impossible to ask of the taxpayers when those that make it are even thinking of putting upon the same the cost of a scheme many times more expensive.

I am, Sir, yours faithfully,

Hackney-road, N.E., Oct. 5th, 1912. MAJOR GREENWOOD.

To the Editor of THE LANCET.

SIR,—Until the Chancellor of the Exchequer has made his statement concerning remuneration it is inevitable that a feeling of anxiety must prevail in the minds of medical practitioners. A certain section of the profession, however, after the most scanty consideration, seems determined to precipitately adopt as an alternative to medical benefit under the Insurance Act a so-called "Public Medical Service." With the public issue of the Regulations the medical members of the Advisory Committee are freed from a tacit understanding that they should not, during the deliberations of the committee, communicate with the press. I therefore venture now to offer a word of caution as to this scheme. We are all anxious in this crisis for some workable agreement, but the wisdom of hurriedly adopting this idea of a "Public Medical Service" is seriously open to question.

If this scheme is to replace the medical benefit under the Insurance Act it must be conducted on a scale which can only be described as colossal, for it will have to supply, by private contract with individuals, adequate medical treatment for many millions of insured persons. But not content with this, it is also actually proposed to include in this scheme the women and children who are wives or dependents of insured persons. Incidentally, as showing how little consideration has been given to the scheme, it may be remarked that it is proposed to charge a less rate for women and children than for the insured men—this in spite of the well-known fact that the ailments of women and children give the doctor far more work. This strikes some of us as a dangerous precedent in view of any future extension of the Insurance Act to the wives and children of the insured.

To build up this scheme of "Public Medical Service" it would be necessary to establish in every town offices with a large clerical staff, a whole army of collectors, and, judging by the experience of industrial insurance companies, canvassers paid on commission would be indispensable. For, in the absence of compulsion, what reason is there for supposing that many millions of workers who have hitherto made no provision of a coöperative nature against illness should suddenly be anxious to subscribe a weekly sum to this new service, in addition to their insurance premiums?

Those who put forward this scheme may not, perhaps, have considered that the average cost of the collection of the weekly premiums of the industrial insurance companies is about 50 per cent. of the amount received. The average cost of the collection of premiums of the various friendly societies is very little less, and this after years of experience and the employment of highly trained agents. During the first few years of existence the expenses in some cases are very much higher. But this "Public Medical Service" proposes to make itself responsible for the health of millions of persons, though it is apparently to start with no capital, no organisation, only a sanguine hope that these people will be eager to pay a higher sum than that which the State already compulsorily demands under the Act. It is difficult for an unprejudiced person to believe that this is possible. But even if subscribers are secured, the difficulty of collecting the weekly pence and of dealing with arrears of payment and lapses presents a problem of great magnitude. With no financial reserves, a period of industrial depression, particularly in towns devoted to staple industries, would inevitably bankrupt the scheme. A prolonged strike would have the same effect, and one can imagine that if in this past summer such a medical service had been established in the East-end of London, where for many months strike after strike occurred, the medical officers of the service would have been financially ruined, owing to the impossibility of exacting regular payments from homes already stripped of all but the barest necessities of life. It is well-known that the effect of the poverty resulting from these strikes has been severely felt by the doctors practising in that part of London.

It is important to point out that one or more doctors refusing to work under the discipline of the scheme could completely undermine it by treating patients at a less cost than the schedule terms. Medical institutes would spring up on every hand, cheap clubs would abound, and the very evils that the profession have for years been fighting would be perpetuated. How can such a scheme compete with the National Insurance Act, under which all the difficulties of organisation and the responsibilities of payments are undertaken for the doctors by the Local Insurance Committees?

I am, Sir, yours faithfully,

Kensington, W., Oct. 8th, 1912. H. H. MILLS.

To the Editor of THE LANCET.

SIR,—I hope all practitioners will very carefully study Paragraph 28 of the Regulations for the administration of medical benefits, published in THE LANCET last week. This paragraph provides that all the payments for medical benefit in each district shall be put into one fund, and that out of this fund shall be paid: (1) the chemists' charges; (2) mileage; and (3) the cost of treatment of persons temporarily resident outside the county or borough, and then what is left shall be divided among the doctors. The third schedule provides that drugs and appliances "shall be supplied at a price covering the cost of retailing and dispensing and calculated by reference to the prices specified for the purpose"; which presumably means that the chemist sends in a bill charging for each item supplied to the insured persons on a tariff basis. He is not to be paid, as everyone seems to have taken for granted hitherto, by capitation.

It is obvious from this that the more illness there is in any district the greater will be the chemists' charges and the less will remain for the doctors; in an influenza year it is quite conceivable that the chemists might require the whole fund. In fact, the chemists sit down first to the banquet of rare and refreshing fruit provided by the Chancellor and leave us the skins and the stones.

I am, Sir, yours faithfully,

CHARLES F. SEVILLE, M.B. Lond.

Oulton, Leeds, Oct. 8th, 1912.

To the Editor of THE LANCET.

SIR,—At a meeting to-day of the Wandsworth Provisional Medical Committee the following resolution was carried unanimously, and I was instructed to send it to you for publication:—

That this Committee repudiates the action of Sir Clifford Allbutt and the other officially nominated medical members who remain upon the Advisory Committee in having stated that in advising the National Insurance Commissioners they represent the general medical profession.

I am, Sir, yours faithfully,

J. KENNISH, Hon. Sec.

Clapham Park-road, S.W., Oct. 8th, 1912.

THE FIFTEENTH INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY AT WASHINGTON.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

Washington, Sept. 23rd.

AFTER two days of ideal weather the morning for the inauguration of the Congress opened with drizzling rain, varied by an occasional downpour. By dispensing with a good deal of formality members who had not received their tickets got through without them, and thus there were none of those lusty complaints which generally herald the opening of great congresses of this description. At the opening ceremony the general secretary explained that it had not been possible to give everyone an invitation for the President's reception, but all members of the Congress were to go to the reception first of all, and probably they would receive the invitation afterwards. What, however, may be regretted is the fact that on the Sunday, when almost every member of the Congress had arrived and did not in the least know what to do with himself, there was no Congress office open where to obtain correspondence, tickets, invitations, programmes, and so forth. With every place shut, and the sale of most refreshments rendered illegal on the Sunday, it is rather difficult for a stranger to feel welcome. One of the representatives of the French Government had to sign three legal documents so as to obtain a glass of beer, and Dr. Jacques Bertillon, having asked a chance American acquaintance how he could best dispose of his Sunday, was advised to visit the cemetery! After that it must be admitted the English are not alone in "taking their pleasures sadly."

For the opening ceremony 33 different nationalities claimed the right to speak. Expostulations naturally followed, and finally a compromise was arrived at under which everyone should speak, but no one for more than three minutes. This, however, meant more than an hour and a half of speaking without counting the address arranged for from the President of the United States and other formal orations. Moreover, the opening ceremony, though it promised to last much longer than the likely endurance of the audience, was postponed from 10 to 11 o'clock, arrangements for receiving members compelling this. I note these small points carefully in view of the fact that the International Medical Congress is to meet in London next year. The moral of our Washington experience is that, Sunday or no Sunday, the offices of the Congress must be open the day before the Congress meets, thus giving the members of the Congress the opportunity of obtaining all they need on the eve of the opening. It is difficult enough sometimes for a member of a congress who has travelled a long distance and who does not, perhaps, understand the language of the country where the congress is held, to arrive in good time at the hall where the opening ceremony is to take place; he does not want added trouble like struggling in a crowded office for tickets. This unpleasant contingency was avoided at Washington, first, by delivering the tickets and badges at the hotels the night before, and, secondly, by admitting those who were not in order the next morning. But if those who are not in order are treated in the same manner as those who are in order, then what is the use of being in order? Indeed, there is something here to be said in favour of abolishing altogether the multiplicity of special tickets for this, that, and the other; but it must not be supposed that tickets of green, to differentiate them from those of pink, are used simply because they are dear to organisers of intricacies. While there is much to be urged in favour of the one ticket for all the functions, it must be remembered that many pleasant functions could only be pleasant while the numbers assisting were (say) less than 500, while many modern congresses have 2000 or 3000 adherents. In any case, everything should be done the day before the congress opens as far as possible.

Reception by the President of the United States.

A hall that seats about 2000 people was filled a few minutes after 11 for the opening ceremony. Instead of 33, we had only 29 speeches from the different nationalities, and many of the speakers did not avail themselves even of their three minutes, while no one really and seriously exceeded the given limit. The rapidity of this function beat all records, and yet it amply sufficed to show how widespread is the internationalism of hygiene. The meeting was over soon after one, leaving members time to get luncheon before Mr. Taft's reception. The reception generally given to such Congresses by the Chief of the State, whether King or President, is all too often a failure, but in Washington, and in spite of abominable rain, everything went off smoothly. President Taft had invited the Congress to the White House for a garden party at 3 o'clock in the afternoon; but the rain rendered it necessary for the reception to be held indoors. Well do I remember the reception of the Congress on Tuberculosis at the White House in 1908, and how we waited for nearly two hours, first in the street, then in the gardens, then in a vaulted passage. At last, tired, with aching back and limbs, we were ushered into the presence. This time matters passed differently. Those who had not received the special invitation were admitted on presenting their membership card. There was no proceeding by Indian file in the street, nor even in the grounds of the White House, but we at once got under shelter without crushing. When finally we formed into a line to pass before the President, he gave certain of us an opportunity of saying a few words to him. Of this I ventured to avail myself, so as to express on behalf of the Medical Press of Great Britain our gratitude for the encouragement given to the cause of hygiene by the notable address which he had pronounced that morning in opening the Congress.

Washington, Sept. 27th.

Mr. Taft's Address.

My expectations, hinted at in my communication last week, written preliminarily to the opening of this Congress, have not been fulfilled. I expected a greater popular success for our deliberations, but there is no doubt that the Congress on Tuberculosis held at Washington just four years ago evoked much more enthusiasm and was more widely supported by the American profession and public than the analogous Congress of Hygiene and Demography. It is not easy to explain the marked difference in attitude except on the ground that the antituberculosis agitation in its fullest force was something new to an American public. Both the medical profession and the public had only recently realised that in regard to cure, but more especially in respect to prevention, new facts had been discovered engendering greater hope. The leaders of thought in America were as far forward as any of our European savants, but the American public lagged behind. When we come to hygiene generally, nothing startling has of late been brought forward comparable to the recent developments in the treatment of tuberculosis, and that is, perhaps, the reason why fewer members have joined this Congress. It is all the more regrettable as this Congress is better organised and has received greater encouragement from the highest quarters. Nevertheless, not even the local papers give the President's opening speech in full. It was a remarkable speech and of interest to all. Mr. Taft, with all his well-known genial manner, said many things which should gratify sanitary reformers and closely interest the general public. He extolled the science of prevention, which, he said, "came into being from nothing and was now achieving the greatest of things." Much of the work was still done for, and the greatest services had received, scant reward. But the President, while acknowledging this national shortcoming, added: "We need to develop under Governmental auspices a bureau or a department in which the funds of the Government shall be expended for research of every kind useful in the practice and enforcement of hygiene and preventive medicine. That something of this sort may grow out of the present United States Public Health Service there is reason to hope, but it will need far greater appropriations and a widening of its scope of duties before it shall have filled the place that the medical profession of this country has a right to expect that the general government will create to ensure the progress of hygiene and demography."

This passage should be utilised throughout the United States, and Mr. Taft and all succeeding Presidents kept up to this mark. It was an original thought of the President to claim that the war in Cuba had saved more lives and money than it had cost because it had compelled the authorities to take the necessary measures to free those countries from yellow fever and malaria. "When

we first went into the tropics our purpose was to make that region habitable for white people. We have now demonstrated that as a possibility." There was also the possibility of regenerating the tropical races. They survived the attacks of parasites, but these impoverished their blood and lowered their energies. If, with better hygiene, such infection could be prevented, a new people with greater energy and larger faculties would be brought into existence. The Medical Corps of the American Army had made this possible by their important discoveries in regard to the transmission of disease in the tropics. But for their work the construction of the Panama Canal would not have been possible. Here President Taft made the great pronouncement of his speech. He considered that whatever honours were due to the chief engineer, who had planned and directed the work of piercing the Panama Canal, were equally due to the chief medical officer, who had rendered this achievement possible by preserving the lives of those who were engaged in realising these plans. The French had failed in a much smaller undertaking because their workpeople were decimated by disease. The success of the Americans was due to the progress that had since been accomplished in sanitary science. As a direct result 50,000 people had been kept alive on the Panama works. It is true there had been no limitation as to expense, and there still remains the task of keeping the canal healthful now that it is nearly built. For this we must have an effective government. The President could not conceive a more useful congress than that of hygiene and demography. It was delightful to contemplate an organisation formed to develop peaceful arts to the common interests of humanity, and this offered a relieving contrast to the burdensome and ever-increasing preparations for war. The sanitary reformer won the highest human sympathy. He earned rewards that could not be measured in money. They had the consciousness of the highest duty well done.

A Diplomatic Incident.

Among the 28 nationalities each sending up a speaker were Cuba and Spain. This was a delicate situation, and proved that it is the mission of these congresses of sanitarians to solve the difficulties left behind them by statesmen and soldiers. The representative of Cuba said he was delighted to be the guest of the United States, not merely because it had freed Cuba from yellow fever, a fact to which Mr. Taft had made allusion, but because it had brought about the birth of the Cuban nationality. It is true the speaker did not say this was done at the expense of Spain, but no one present could have forgotten such recent history.

Foreseeing such circumstances, it is not surprising that the representative of Spain felt the great responsibility of every word he might utter. Dr. Llorente was therefore careful to consult not only the Spanish Prime Minister as to what he should say, but, being attached to the Royal household as medical adviser, was also able to ask the King in person what he thought of the position of affairs. Thus the few words the Spanish representative uttered at the opening meeting assume diplomatic importance, and this is another case in proof of the impossibility of absolutely divorcing these Congresses from politics. Dr. Llorente, primed by his previous consultation with his King and his Prime Minister, standing within two or three feet of the President of the United States, was able to say that in response "to the proofs of consideration and friendship which my Government has received from the Government of the United States, I am commissioned to say that the Government of Spain reciprocates loyally these good and friendly sentiments. It also salutes all the nationalities represented at the Congress, but more especially those who speak our Spanish language and have a common history with our own. Spain, as their mother country, sends greetings." Thus is the votary of science sometimes converted into the semi-official messenger of peace and reconciliation. This was one of the most notable incidents of the opening ceremony, and shows that the Congress, like so many of its predecessors, succeeded at its very opening in helping to consolidate the cause of peace, while it has also induced the chief of the State in which it was held to promise that more money should be spent and more attention devoted to promote the cause of sanitation.

(To be continued.)

MOTORING NOTES.

(FROM A SPECIAL CORRESPONDENT.)

The 10–12 h.p. Four-Cylinder Briton Car.

IN introducing this car the Briton Motor Company, Limited, of Wolverhampton, must, I think, have had in mind the recent American invasion of cheap cars, and also the undoubted demand that exists for a two-seater at a reasonable price, provided that the low price does not impair the material, workmanship, finish, comfort, cost of running, and probable length of service of the car. The value of a car, especially one for the medical practitioner, cannot be estimated by the eye or even by a trial run. It has to keep going for years under all sorts of conditions, and to stand the test of repairs and replacements over an extended period. In order to judge of the likelihood of this car fulfilling these requirements I have thoroughly examined the construction of one, and have used it for a day's visiting as well as for a 50 miles run. The four cylinders are cast in pairs, have a bore of 68 mm., and according to the R.A.C. rating give 11·3 horse-power; the valves are interchangeable and all on one side; the gear-wheels are enclosed, and so are the valve springs and lifters. The only feature about the plate covering the latter, which I think might be improved, is that the inlet pipes must be taken down before it can be removed. Still, this is a small matter, as the tappets are lubricated from the crank, and access is only needed for removing a valve. The ignition is by a Simms' high-tension magneto with fixed firing. The carburettor is a Zenith, and both hand and foot levers are fitted to the throttle. The foot accelerator is between the clutch and foot-brake pedals. Personally I prefer the accelerator pedal to the right, but with a little experience one can get accustomed to the pedal being where it is in this car. The water circulation is by thermo-syphon in conjunction with water pipes and radiator of large dimension. A fan is fitted behind the latter to induce draught. The clutch is of the leather-faced cone type, and the male member is made of aluminium and is therefore light, and thus comes quickly to rest when withdrawn—a point of advantage when changing speeds. The gearbox provides three forward and one reverse speed, all controlled by a single lever working in a gate change quadrant. As is usual, the third speed is direct. Lubrication is by a pump driven off the cam shaft, forcing oil from a sump beneath the crank case, under pressure, to a tell-tale indicator on the dash and thence to the crank-shaft bearings and through the drilled crank-shafts to the big ends, the other parts being oiled by splash. The transmission is by cardan shaft with universal joints both at the gearbox and back axle end. The wheels run on self-contained journal bearings and are supplied with 700 by 85 heavy plain Dunlop tyres.

The frame is of deep section-pressed steel. The rear springs are three-quarters elliptic, and lubricators are fitted to the shackle-pins, a feature that is not often to be noted on inexpensive cars. An efficient torque rod is provided; it is hinged above and below to the back axle casing and anchored forward to a cross member of the frame. The foot brake operates by means of a raybestos-lined band on a drum at the back of the gearbox. The road wheel brakes are of the internal expansion pattern. The body is a two-seated semi-torpedo, with the petrol tank under the dash. Hood, screen, two side and a tail lamp, horn, tyre pump, and tool kit are included in the price—£183 15*s*. I found the standard body well adapted to the chassis, and the seating accommodation and leg room ample. The suspension, even on rough roads, was satisfactory; in fact, considering the small-sized tyres, the smoothness and comfort of running surprised me. I found the clutch comfortable, with just that shade of slip when engaging that is desirable. Although only a fixed magneto ignition is fitted, the engine started without difficulty, even when cold.

The steering and gear changing were easy and the brakes satisfactory. The power is sufficient, and without difficulty the legal speed can be exceeded: low gradients were taken on the top speed and the second gear is well-proportioned and surmounts really steep hills. The petrol consumption worked out at about 24 to 25 miles to the gallon. As a result of my examination I consider this car well designed

and finished, the fittings are good, and it is not by any means a "shoddy car." I think it can be well considered by medical men in search of a car costing less than £200, and it should give good service, provided, of course, that the owner becomes master of his car, learns what adjustments are required and does them for himself, so that the car is always in tune and at its best. Success in running a car is like success in other affairs of this life: it is usually the result of "looking after the little things."

Benzol instead of Petrol.

Under this heading H.R.H. Prince Henry of Prussia advocates in the *Allgemeine Automobile Zeitung* the employment of benzol in place of petrol, alleging that all the drawbacks said to appertain to the former can be done away with by the use of properly constructed carburettors. In view of the present price of petrol this advice is certainly worth considering.

As far back as Jan. 9th, 1909, mention was made in these notes of the advantage of benzol, and the conclusion then arrived at was that, with the carburettor adjusted to give more air, benzol answered as well as petrol. It is important to prevent carbon deposit and its results by an excess of air. This can be obtained, as was pointed out in THE LANCET of June 5th, 1909, by cutting small circular holes in the induction pipe as far from the carburettor as possible, and fitting a sliding sleeve over them, so that when starting or when using petrol these extra air inlets can be closed.

Difficulties in Starting.

Occasionally the engine, especially when cold, needs many turns before it will start, and with an urgent case awaiting the medical man's arrival this is inconvenient. If there is an automatic air valve, holding this closed and so increasing the strength of the mixture may overcome the trouble. It is as well, too, to make sure that the ignition is switched on and that there is petrol in the carburettor. If these points have been seen to, then the quickest way to start the engine is to squirt a little petrol into the cylinders, through the compression taps if such are fitted, and if not through the sparking-plug orifices. It should be borne in mind that too much petrol as well as too little may be the fault, and that the routine habit of flooding the carburettor may be a cause, instead of the cure, of this disorder.

To Ensure that the Valve Caps are Compression Tight.

A correspondent recently wrote complaining of loss of power through leakage at the valve caps. This he demonstrated by placing a ring of oil round the cap, and noting the bubbles that came up when the engine was running. On the car in question the valves were of large size and the seating for the copper-asbestos washers was thus reduced to a minimum; hence the difficulty in obtaining a gas-tight joint. A cure resulted from well cleaning the seats, using new washers, and smearing them with a mixture of turpentine and graphite. Fish-glue also answers, but it has this disadvantage, that the resulting joint is difficult to break.

Tar Stains on Motor Bodies.

Tar in some form or other is now much used in the treatment of road surfaces, and it is certainly valuable for the prevention of dust, but when recently applied it is apt to splash up on to the body-work of passing vehicles, and the spots if left on long will permanently stain the varnish. The best remedy if the car is dusty is to hose it and then rub the splashes with vaseline or fresh butter until they disappear, using plenty of grease. The grease should then be wiped off and the car washed with plenty of water and dried thoroughly with a chamois leather skin, polishing the panels upwards and downwards, not from side to side. A useful renovator for the wood work and varnished parts of the car is made by the County Chemical Company, Limited, of Bradford-street, Birmingham. This should be rubbed in gently with a soft cloth and the surface polished with a clean soft duster. It is useful for removing dirt and leaves a brilliant polish.

A Stowaway Jack.

This jack has been introduced by the Atlas Non-Puncture Inner Case Syndicate, Limited, of High-street, Kensington, London, and occupies very little room, measuring 16½ in. when open and only 3½ in. when closed. Another useful jack is the "Celerio," which weighs less than 8 lb., raises from 9 to 15 in., lifts up to a ton, and is easily operated. It is sold by Messrs. Brown Brothers, Limited, of Great Eastern-street, London.

A Petrol Blow-Torch.

Most motorists who look after their own cars have a little soldering to do at some time or other, and to them the "Imp Petrol Blow-Torch" should appeal. This consists of a small metal bottle containing ordinary petrol to which is attached a curved tube, with corrugations underneath. The tube terminates in a minute hole, which is surrounded by a Bunsen end. Warming the corrugated tube by means of a lighted match soon results in an issue of gas from the Bunsen; when this is lighted a perfect Bunsen flame of over 2000° F. is obtained.

THE CANADIAN PUBLIC HEALTH ASSOCIATION: ANNUAL MEETING.

(FROM OUR OWN CORRESPONDENT.)

THE second annual meeting of the Canadian Public Health Association was held in Toronto on Sept. 16th, 17th, and 18th, with Dr. CHARLES HODGETTS, of Ottawa, as president. The meeting was a successful one, the attendance being large and the papers read instructive. The association is progressing rapidly, its growth being contemporary with the awakening of the public conscience with regard to sanitary affairs. These sentiments are wisely fostered by the press in this country, and as the policy of the association has been guided with wisdom the earnest coöperation of the general public with medical men in the campaign against preventable disease is now a fact. The prominent subject brought before the meeting was the necessity to discourage the direction of immigration towards towns in Canada.

Presidential Address.

Dr. HODGETTS, in his presidential address, drew attention to the fact that moral degeneracy with its results was to be found in the most recently settled portions of Canada, while physical evils and their attendant social troubles were in evidence in the rising generation even of Toronto. Dr. Hodgetts declared that the empire of Great Britain could not last if an imperial race were not bred, and said that it was in order to consider how Canada could do its share in this the greatest task of empire, the perpetuating of an imperial race, that the subject of public health was presented to the association which represented the health interest of the Dominion of Canada. He argued that the public health was not looked after as it should be looked after in Canada as a whole, and urged that it was not only a matter for municipal and provincial action, but that it should also be dealt with by the National Government. From another aspect of the public health question Dr. Hodgetts contended that a National Department of Health should be established. He criticised the medical inspection of immigrants. He did not deny that those responsible for the service did their best, but he did doubt the adequacy of the service. It was impossible that one or two medical men could properly examine in a few hours several hundreds of persons often speaking a foreign language. He thought that this matter in itself was sufficient argument for the establishment of a Federal Bureau of Health whereby all branches of public health would be coördinated.

Displacement of Rural Dwellers in Canada.

The first paper read at the meeting, by Dr. P. H. BRYCE, superintendent of immigration, Ottawa, dealt with one aspect of this question in an able manner. Dr. Bryce put the situation in this way. How long can a country like Canada, essentially a producer of raw material by virtue of geographical location and extent of territory still largely undeveloped, continue normally to develop and prosper when it has shown a displacement of rural population during the past ten years never witnessed before in the history of any people, and an increase in urban population, rapid even beyond the palmiest days of the United States immigration? Dr. Bryce also discussed various means by which immigrants might be induced to settle on the land, and pointed out many obstacles which should be removed in order to render the lot of the worker on the land more comfortable and

prosperous. In a country so sparsely populated as is Canada it was somewhat curious to hear speakers advocating a back-to-the-land movement, which is the usual remedy propounded for urban overcrowding.

Tuberculosis.—Ontario Public Health Act.—Filtration.

Dr. J. H. ELLIOT, of Toronto, read a paper on Tuberculosis. In Canada 85 per cent. of the deaths from tubercle are pulmonary, and all are human type infections; the disease is never hereditary, always infective, and the infecting source should be always sought. Toronto is doing great work in handling tuberculosis, of which Miss DYKE gave a detailed account very well received.

In the afternoon Dr. JOHN W. S. MCCULLOUGH, chief health officer for Ontario, gave a *résumé* of the improvements introduced by the new Provincial Public Health Act. The Board of Health meets once a quarter, leaving its secretary, the chief health officer, as its executive agent between times. He has three public health laboratories—at Toronto, Kingston, and London—under his jurisdiction; each has a director in charge, who examines specimens for typhoid, diphtheria, &c., makes blood and sputum examinations, and analyses water samples, all free of charge. There are two assistant medical health officers, each with his district, and then there are the medical health officers of municipalities and rural districts who can no longer be discharged, except for cause shown and with the approval of the Provincial Board of Health. Further, they must be granted a reasonable salary. That would have to be decided by the county court judge. Tuberculosis is notified confidentially. The medical health officer gets a salary for his public health work, and attends the indigent on a contract he makes himself with the municipality. This new Health Act was well received by the doctors of Ontario, and will give great help in the campaign against disease.

Mr. T. AIRD MURRAY, C.E., of Toronto, discussed slow and rapid sand filtration. He concluded that if less than one grain of precipitant (alum) was required, rapid sand filtration was cheaper in Canada, where frost is sometimes lasting, and covered filter tanks must be built.

National Insurance Act.

Dr. W. A. EVANS, late chief medical officer of health of Chicago, on the evening of the 16th delivered an address before the association on public health matters, and in the course of his remarks referred to certain clauses of the new English National Insurance Act with approval, conceiving that they would probably reduce consumption by 20 per cent., encourage the treatment of maternity cases in hospitals, and thus reduce the number of deaths of newly born infants and of women. He conceived that the Act would bring it home to the public that they could not afford to have people live in insanitary conditions, nor could they afford to have children brought up in such surroundings.

Rate- or State-supported Hospitals.

A paper read by Dr. BRUCE SMITH, inspector of prisons and public charities for Ontario, spoke very openly concerning rate- or State-supported hospitals. He held that municipal hospitals on that continent were badly managed and that the establishment of a municipal hospital destroyed the philanthropic spirit of the people. He pointed out that the contrast between municipal hospitals and those directed by a local board was most marked. There was always a discordant note from the executive side of the municipal institution. Everywhere were seen the finger-prints of the politician; the ward boss and the political heeler exerted their baneful influence without check or scruple. Fortunately, he said, "we have not in this country the experience which has been so expensive in some American cities during the past few years."

Other Papers.

The programme, it will be seen, was a very full one, and it would be impossible in a limited space to deal fully with all the papers read. Some good papers were read in the Section on Military Hygiene, notably by Colonel G. CARELTON JONES, P.A.M.C., Director-General Medical Services, Canada, on Sanitation of Besieged City or Town; and by Major LORNE DRUM, P.A.M.C., on the Militia as a Factor in Public Health. Papers were read on inspection of all kinds. Dr. G. G. NAISMITH, Director of Laboratories, Toronto, read a paper on Municipal Milk Inspection in Toronto, and the question of medical inspection of children was considered from all points of view. In the Section of Medical Officers of Health Dr. CHARLES J. C. O. HASTINGS, medical officer of health, Toronto, read a paper on a Modern Hospital for Communicable Diseases.

The most popular section of the whole meeting was that of social workers, presided over by Dr. HELEN MACMURCHY, of Toronto. The principal subject discussed was prevention of social misery, and on this very general subject medical men and nurses, business men, charity workers, Protestant, Catholic, and Jewish ministers took part in a symposium. The general feeling was that a "back to the land" policy met most of the evils that were detailed.

At the third general session Mr. J. P. DOWNEY, who is not a medical man, but is superintendent of the Ontario Asylum for the Insane at Orillia, read a paper on the Feeble-minded, noting how large a proportion came from how few particular families, which was emphasised by Dr. HELEN MACMURCHY (who is, by the way, a most devoted and successful worker at public health as well as a graceful lecturer), who told of one woman, feeble-minded and in Ontario, of whose children seven, and of her known grandchildren three, were both feeble-minded and illegitimate. Great interest was taken in open-air schools and in a paper on the methods in vogue contributed by Mr. A. J. GREENE. Slides were shown of the Toronto Open-air School, of Forest Hill, Charlottenburg, and of another in Russia. It was considered that the Toronto principle of setting the children to sleep during the afternoon in beds, at full length, was better than the English and German practice, which gave them only deck chairs. Sir George Newman was present through part of this discussion, and later in the day the members of the association were taken to see the open-air school. The open-air school was considered not only to benefit the child but through him to educate the parents, raising the standards of personal cleanliness and so on. Such a school has been working at Hamilton, Ontario, for a year and a half. Dr. NAISMITH, bacteriologist to the city, noted that in three years the typhoid death-rate had been reduced from 45 to 20 and 7½ (per 100,000, I presume). Thus in the last year a number of lives (which if capitalised at $4000 amounted to $500,000) had been saved by constant bacteriological examination of the water-supply. It was stated that the chairman of the Children's Hospital has installed there a milk pasteurising plant, and that he has so prevented the occurrence of intestinal tuberculosis, but I could not hear the evidence that was adduced. They publish in Toronto a monthly health bulletin to inform the medical men as to the recent laboratory work that has been done, what dangers to health are dimly seen on the horizon, and what diseases may be expected. An epidemiologist has been recently added to the medical staff of the city.

Mr. W. W. LEE, secretary of the immigration branch of the Young Men's Christian Association, Quebec, read a paper in which he directed attention to the United States Report on Immigrants, which noted a change in shape of the heads of the children of long-headed immigrants. They tend to become shorter and broader, and it is noted that immigrants who are accused of desiring to live in squalor do not do so if they live in the country, but only if squalor is forced upon them in the cities by high rents and consequent development of slums. Dr. J. F. GOODCHILD read a good paper on the Open Window, and the scientific papers of the Congress were ended. It was then announced in sadness to the Congress, whose members had been puzzled by the absence of its founder and first president, Professor T. A. Starkey, of Montreal, that Mrs. Starkey had died on the previous afternoon.

Resolutions.—Hospitality to Members.

At the closing meeting of the Association two very important resolutions were brought forward and passed. In the first place the organisation urged the formation of a Federal Department of Public Health. Next, a resolution was passed to the effect that a committee be appointed to draw up a memorial to be presented to the Dominion Parliament that it is against the interests of public health that raw sewage be permitted to discharge into waters which are used as the source of water-supply; that it is the conclusion of the Canadian Public Health Association that an Act regulating the pollution of streams is required in order to strengthen the hands of provincial authorities; and that the

committee have power to draw up the said memorial and present to Parliament all available evidence and data bearing upon the prevention of the pollution of waters which are or may be used as sources of water-supply.

Dr. J. W. S. McCULLOUGH, chief medical officer of Ontario, was elected President, and Regina, Saskatchewan, was selected as the next place of meeting. The executive committee consists of the president: the secretary, Major Lorne Drum, Ottawa; the treasurer, Dr. G. D. Porter, Toronto; Professor John Amyot, Toronto; Colonel G. C. Jones, Ottawa; and Dr. C. A. Hodgetts, Ottawa. While the meeting was in progress both the city of Toronto and prominent private citizens extended their hospitality to the members of the Association. Sir Edmund Osler gave an At Home to the members of the Association and friends, while Lieutenant-Colonel and Mrs. Albert G. Gooderham gave a *musicale* at the King Edward Hotel on the evening of Sept. 18th.

Closing Remarks.

What were the subjects that seemed most prominent at the Congress? The duty of the State to preserve the public health, and the money it saves by so doing. The importance of the care of infant life. The value of the laboratory. The care of meat, milk, and water. And the unstinted praise served out to the recent Ontario Public Health Act must have satisfied its promoters. The Association was most hospitably received by the corporation and by the citizens of Toronto, and the visitors by their professional brethren. If there was anything usual at English Congresses that one missed it was proofs of the papers. A paper like Dr. P. H. Bryce's on the relation of urban and rural population in Canada could not be discussed when merely heard. It is said that the papers cannot be got in in time. Surely "cannot" is a strange word in a young and growing country. If the organisers of the next Congress try and succeed in getting a few papers two or three months before and have them printed and circulated a month ahead, the increased attention to, and discussion of, those papers should stimulate the writers on other subjects and smooth the way of Major Lorne Drum, the popular secretary, in the following year.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Opening of Medical Session in the University of Manchester: Addresses by Dr. Rolleston and Professor Stirling.

THE session at the Medical School of the University was opened on Oct. 1st with an inaugural address by Dr. H. D. Rolleston on Universities and Medical Education, which was published in full in THE LANCET of last week. In opening the course of lectures on physiology, Professor W. Stirling gave an introductory address on Words, Names, and Phrases in Medicine. The body was first considered as a habitation and as a physical machine, when the importance and significance of the internal combustion mechanisms were dwelt on. The necessity of a thorough knowledge of physics and chemistry was insisted on, and illustrations given of the problems in mechanics, hydraulics, and pneumatics which are exemplified in the body. Next the question of the introduction of new words into our language was discussed, and the sources of many of the medical words in common use to-day were traced to their origin. Few, perhaps, would at first imagine that the word chancellor is related both to cancer and to the word cancellus, so familiar in relation to bone. A claim was made for the value of classical mythology in exciting the interest of the young student in zoology, as the lecturer on zoology will later deal with such familiar names as Proteus, Hydra, Medusa, Gorgon, Euryale, Polyps, Volvox, Cyclops, Argonaut, and many others. The brain and the terms used in connexion with it were next brought under review, and the etymological and historical associations pointed out of words such as pia, arachnoid, and dura mater, falx, ventricles. The eye also was considered so as to elucidate the origin and application of such terms as bulb, apple, iris, pupil, cataract. The bones and the origin of their names were next passed in review, then the ligaments and the muscles, including the origin of the term "bouquet of Riolan," a term apparently not much used in this country. Next the origin, meaning, and significance of such botanical terms as belladonna, aconite, colchicum, and aristolochia were linked up with their mythological history or their supposed functional virtues. The source of the terms Cæsarean section and the Roman appellation Agrippa were explained, as were the meanings of many medical words in common use which had changed their meaning in the course of time. Lastly, the problem of death itself was considered, and among the references the lecturer quoted the classical description of the facies Hippocratica, and those of senile decay in the Seven Ages of Man.

Big Scheme for a Sanatorium by Stockport and other Towns.

The Stockport town council at its last meeting decided to join other authorities to form a joint sanatorium for the Cheshire county council and the town councils of Birkenhead, Chester, Stockport, Wallasey, and Stoke-on-Trent. The scheme includes the appointment of a joint committee and the provision of a sanatorium to contain accommodation for 150 patients, with an administration department for 250 patients in case of an extension being made. The cost per bed is estimated at £150, and towards this there would be the contributions from the Government under the Insurance Act of £90 per bed, making the cost to the authorities £60 per bed. It was estimated that Stockport would take 15 beds.

The Chinese Laundries in Manchester.

These laundries are about to receive special attention from the health department of the city. It appears that the number of small Chinese laundries conducted by Chinamen has increased at an astonishing rate, and at present about 40 are established within the city area. On the advice of the medical officer of health the sanitary committee has now decided to issue special notices in Chinese characters warning against spitting on the premises, and pointing out that penalties will be imposed for any offence in that direction. There is a prevalent belief—but whether based on fact or not, it is difficult to say—that spitting is very prevalent in some Chinese establishments, and that this act is not confined to spitting on the floor. Spitting is said to be a part of the process in some laundering businesses, as in the ironing process it is stated that the operator expectorates freely on the articles which are being dealt with, and that as an aid to the sustained secretion of saliva the chewing of gum is largely practised by the laundry men.

Lister House and the Retirement of Mr. G. A. Wright, F.R.C.S.

Lister House, a residential home and club for senior students of medicine, and in close proximity to the Royal Infirmary, which began in a modest way, has achieved a decided success. It was largely through the joint coöperation of Mr. Wright and Mr. Joseph Bell that the scheme was carried to a successful issue. Although only inaugurated 18 months ago, it has promptly "caught on," and its rooms are always full. Mr. Wright has acted as the chairman of the executive committee, and it was only natural and right that the committee of Lister House should on the occasion of Mr. Wright's retirement to the south of England seek to recognise in a formal and most cordial manner the importance of his services to the institution. A pleasant ceremony was arranged at the Midland Hotel, with Mr. Bell as chairman and Mr. Wright as guest, to wish Mr. Wright all good wishes for the future.

Post-graduate Lectures at the Royal Infirmary.

The series of post-graduate demonstrations will be resumed at the Manchester Royal Infirmary next week. These demonstrations are open, free of charge, to all medical practitioners, and are held at 4.30 o'clock on Tuesday and Friday afternoons. The clinics on Tuesdays will be on medical subjects and on Fridays on surgical ones.

Post-graduate Demonstrations at the Salford Royal Hospital.

A course of post-graduate demonstrations, open to all qualified medical practitioners free of charge, will be given in the board room of the Salford Royal Hospital at 4.30 P.M. on successive Tuesdays, from Oct. 8th till Dec. 17th, 1912, and will be continued from Jan. 7th, 1913, till Easter. Any further information may be obtained from Dr. James B. Macalpine, honorary secretary, 21, St. John-street, Manchester.

Oct. 8th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Health of Birmingham.

THE report of the medical officer of health for the year 1911 has just been issued. The population of the city is 842,337, so that it now stands twelfth in population among the great cities of Europe and America, but few of the other cities have such complete control of their own development. Statistics show that it is one of the healthiest manufacturing cities in the world, the death-rate for the year being 15·0 per 1000; the mean death-rate for the five years 1907–11 was 14·7. The birth-rate last year was 26·1. The mean rate in the old city in 1871–80 was 40·7 per 1000, and in 1910 it was 28·0, so that there has been a decrease of nearly 32 per cent. The infant death-rate was 150 per 1000 births, and for the five years ending 1911 it was 129. The mortality rate for typhoid fever was 0·04 and for phthisis 1·14.

Birmingham General Dispensary.

For some time the authorities of the Birmingham General Dispensary have had under consideration the question of providing special treatment for consumptives. About 1200 cases of tuberculosis come under the notice of the dispensary medical officers in a year. Arrangements have been made to establish a dispensary tuberculin centre which will be in charge of a medical officer who will devote his whole time to this work. The medical officers in the various districts will refer all suitable cases to the tuberculosis dispensary. Where necessary the officer, accompanied by a nurse, will visit the patients at their own homes to see that his instructions are carried out.

The University Anatomical Department.

The body of Archdeacon Colley has been received at the anatomical department in accordance with the wishes of the deceased that his body should be used for scientific and educational purposes. The remains will be finally cremated. This is the first gift of the kind received by the anatomical department of the University, and such gifts seem to be still very uncommon in this country.

A Proposed Hospital for Nervous Diseases.

A proposal has been set on foot to establish a hospital for nervous diseases in Birmingham. It does not seem to be meeting with the general approval of the profession, and, indeed, the present time is singularly inopportune for such a venture. The new Insurance Act has made the future of all hospitals uncertain; the Children's Hospital still requires a large sum of money for its new buildings, and the existing hospitals—the General and Queen's—provide quite sufficient accommodation to meet the needs of the city in respect of nervous diseases.

Oct. 8th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Medical Profession and the Insurance Act.

IN Aberdeen the various friendly societies have received the resignations of their medical officers, and with each resignation has been sent the following note:—

> As honorary secretary of the Aberdeen (Burgh) Provisional Local Medical Committee I enclose herewith the resignation(s) of the post(s) of medical officer to your [here is filled in the name of the society addressed]. I beg to inform you that I have been authorised by the practitioner(s) concerned to take this action in support of the policy of the British Medical Association in connexion with the National Insurance Act, so far as medical benefits are concerned. Any further communication on the subject should be addressed to me as secretary of the above committee, which is empowered by the local profession to deal with any question that may arise.—JOHN INNES, Honorary Secretary.

The Edinburgh, Inverness, and Dundee medical men have also sent in their resignations to the various friendly societies.

Medical Men and Advisory Committees.

The medical men in Dundee have decided by 11 votes to 9, and after close discussion, that the next representative meeting of the British Medical Association to be held in London be asked to rescind the resolution against members of the medical profession acting on Advisory Committees. It was pleaded that those who had defied the Association and given their services to those bodies had done valuable work.

Infantile Mortality in Glasgow.

Dr. A. K. Chalmers, medical officer of health of Glasgow, in his annual report deals in an interesting fashion with the question of infantile mortality in the city. In 1911 there were 2944 deaths of infants under one year, which is equal to a death-rate of 136 per 1000 births. This is 17 per 1000 above the rate for the previous year, which was the lowest on record. The increase in the rate for the year 1911 is consequent on the high temperatures which prevailed during the summer and autumn, and which adversely affected infant life. Of these deaths, 2562 were of legitimate and 382 of illegitimate children, representing rates of 127 and 260 respectively per 1000 births of each class. In each class there is evidence of improvement when compared over a series of years, and it is a reasonable expectation that still further reduction will result from the increased facilities for supervision which the provisions of the Notification of Births Act and of the Children Act afford. The diseases classed under "immaturity" constitute the largest individual portion of the infant death-rate, and represent a mean rate of 46 per 1000 male births and 37 per 1000 female births. Under existing circumstances this is to be regarded as an irreducible part of the infant death-rate—irreducible at least until the causes which prejudicially affect gestation are better known. There is some reason for thinking, according to Dr. Chalmers, that among the poorest of the population the proportion of fat and carbohydrates in their dietary is insufficient. It will be observed also that the death-rate among male infants is uniformly in excess of that among females, the total rate for the former being 145 per 1000 births, compared with 120 for the latter. This feature of the infant death-rate is reflected at every age-period save from 25 to 35 years, when the rate among females exceeds that of males, and it is suggested by these comparisons that the higher death-rate obtaining among adult males are sex differences, and not wholly due to exposure and the exigencies of employment to which they are usually ascribed. Next in frequency to immaturity are the diseases of respiration, which show a mean rate of 31 and 25 per 1000 male and female births respectively. It is stated in the report that there are in the city a number of private lying-in houses. During 1911 births numbering in all 171 were recorded in 12 of these. Most of these children are illegitimate, and immediately after birth are handed over to the care of foster-parents. All such births are reported to the parish authorities who keep careful supervision over the children. Dr. Chalmers, however, suggests that these houses should be registered and put under supervision either of the Public Health or Poor-law authorities. It is interesting to note that by information obtained under the Notification of Births Act of the 22,486 live and still births notified, 10,353, or 46 per cent., were attended medically, either at home or in institutions, while 12,133, or 54 per cent., had no medical attention. It is pointed out that until the advantages of a Midwives Act have been extended to Scotland, and an official register of midwives prepared, it will not be possible to distinguish accurately between the births attended by certified and uncertified women. Excluding midwives belonging to the various maternity institutions and associations in the city, however, a list of 285 names has been prepared, mostly from information contained in the notification cards, which shows that 130 certified and 155 uncertified are in more or less regular practice.

Appointments at Aberdeen Royal Infirmary.

At a meeting of the board of directors of Aberdeen Royal Infirmary, held on Oct. 2nd, Dr. Alexander Ogston was appointed to the office of chief anæsthetist, and Dr. W. F. Croll to an assistant physicianship.

Small-pox in Kirkcaldy.

An outbreak of small-pox has occurred in Kirkcaldy, supposedly brought to the town by infected flax from Russia. The last outbreak occurred seven years ago.

Bequests to Perth Institutions.

The late Sir Robert Pullar, Perth, leaves £5000 to Hillside Home and £5000 to the consumptive sanatorium erected by

Sir Robert and Lady Pullar at Barnhill, Perth. The legacies are not to be used for extension, but otherwise are at the disposal of the directors.

Arbroath Infirmary and Sunday Concerts.

The directors of the Arbroath Infirmary have decided to decline any gift offered the infirmary as the result of a concert held on Sunday evening.

Oct. 8th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Medical Profession and the Friendly Societies.

THE position of the medical profession of Dublin toward Friendly Society practice is attracting much public attention in Ireland. A union of Friendly Societies has been formed, and the societies are being asked to negotiate with medical men only through the union. The union has called on the corporation of Dublin to cease paying grants to the various hospitals unless they are willing to admit patients on the same principles as heretofore. The following scheme has been put forward for discussion:—

> To form a United Medical Fund, to which each society or branch would contribute that amount which they would pay to the doctors had the old scheme been allowed to continue, so as to provide medical attendance and medicine for member and family as at present. No medical certificates to be demanded for any purpose, either for State or ordinary benefits, if a fee has to be paid to the doctors for them. Medical attendance to be supervised by competent stewards.

At a recent meeting of the Dublin Trades Council the matter was also discussed, and the following resolution was carried on a division:—

> That this council desire to place on record a vigorous protest against the action of the Medical Association in trying to blackmail Approved Societies, and force from them exorbitant fees that the funds are entirely inadequate to meet, and in order to frustrate their pernicious designs, we recommend all Trade Union Approved Societies to dispense with medical tests, and appoint instead a visiting committee, and on the report of said committee to pay the benefits to insured members.

An interesting feature of the debate was that the resolution was opposed, and the action of the medical men defended on trade union principles by, among others, Mr. James Larkin, a well-known labour organiser. I understand that all medical men in Dublin holding positions as medical officers of Friendly Societies have forwarded to their societies notice of the conditions under which they will be willing to continue in office after January 1st, 1913.

The Local Government Board and the Sanatorium Benefit.

For some time past the Dublin County Borough Insurance Committee has, as part of the sanatorium benefit, provided in certain cases suitable food, clothing, and bedding for patients undergoing home treatment. The committee has, in this work, made use of the machinery of the Samaritan committee of the Women's National Health Association. Last week an intimation was received from the Local Government Board that the Board considered that this form of treatment did not come within the terms of Section 16 (1) (*b*) of the National Insurance Act. A deputation from the Dublin Insurance Committee waited on the Local Government Board last Tuesday, and urged that home treatment would be in many cases useless unless the committee had power to supply deficiencies in food, clothing, &c., when necessary, and promising to safeguard the Samaritan committee's work as fully as possible against abuse. In reply, Mr. E. Bourke, representing the Local Government Board, promised that the views of the deputation should receive full consideration.

The Insurance Act and the Medical Profession in Belfast.

The position in Belfast as regards the Insurance Act is as follows. First, the Local Insurance Committee has approached the Public Health Committee and several of the hospitals to try to make terms about the treatment of insured subjects in cases of tuberculosis. The Public Health Committee of the city has declined to consider the matter at present, while the hospitals for the time being do not answer. Naturally, before accepting any plan of State aid the boards of management and the medical staffs of these institutions are asking themselves:—How would the adoption of such a method affect those who work and those who subscribe on the basis of these institutions being charities? The Insurance Committee have put forward no general plan of action, and have not consulted the Local Medical Committee. In the meantime, all practitioners with Friendly Society appointments have sent in their resignations, and the Local Medical Committee, on being consulted, has advised that the staffs of the various hospitals—which have been asked to take in medical or surgical tuberculosis cases by the Insurance Committee—should collectively consider the matter, and that they should give no reply to their Committees (Boards of Management of the Hospitals) until the Local Insurance Committee has fully made public the plan intended to be adopted as regards sanatorium benefit, and, finally, until the whole subject had been discussed and decided upon by the Local Medical Committee. The action of the Irish Insurance Commissioners, described in THE LANCET last week, in granting an interview to a newspaper has been severely criticised as contrary to the usual rules binding upon civil servants. It has made the question of working the benefits of the Insurance Act that pertain to Ireland far more difficult. Up to the present, the Irish Regulations have not been made public. The chairman of the Irish Insurance Commission has, however, given a further interview to a representative of the *Irish Times*, in which he defended several of his statements, and in discussing domiciliary treatment under the sanatorium benefit, said:—

> The point that seems to have been lost sight of by the medical profession is that domiciliary treatment was not really part of the original plan connected with the scheme, and was inserted to meet the wishes of the profession, which complained that there was a danger of local medical practitioners having their private patients taken from them."

This is a remarkable statement, as the report of the Departmental Committee on Tuberculosis, which has been generally regarded as suggesting the policy for the administration of the sanatorium benefit, speaks of domiciliary treatment as an essential part of any scheme.

Oct. 8th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Tuberculous Officials.

THE question of the compulsory notification of tuberculosis has become an increasing object of special study during the many years that this disease has forced itself more and more on the public attention, and it has obtained many supporters, for the preservation from contagion is one of the first measures to be taken. Officials affected, it is now being urged, should no longer be in actual contact with their colleagues or the public. At the Ministry of Public Instruction complaints are constantly received from the heads of families with respect to tuberculous teachers, with whom the pupils are in direct and daily communication, a matter perhaps affecting the health of the future generation. The Government is at present considering what conditions shall be imposed on tuberculous officials. The Minister of Public Instruction is directing his attention to teachers, not only of the primary grade, but also of the secondary schools, who are affected with tuberculosis. The Government contemplates bringing forward a Bill to deal not only with teachers but with all officials affected with the disease. It is a difficult question, for it entails taking into account the years of service of the official and granting him a retiring allowance proportionate thereto. As there is at present no law bearing on this subject it will be necessary to make one. The procedure in regard to tuberculous officials must be in line with that prevailing in the army in regard to officers. At the Ministry of Public Instruction it is likely that the certificates of medical men will not be held sufficient. The tuberculous members of the teaching staff will have to present themselves before a committee of enquiry comprised partly of medical men and partly of representatives of the Ministry of Public Instruction. These committees will sit in Paris and in the great university centres. This system will probably be adopted by the Government for other officials also, and be made to apply generally to other affections. There are professors who have become deaf, and though this does not at present prevent them from carrying on their functions, they do so under defective conditions which should be remedied. The Government measure will be brought forward in the coming Parliamentary session,

certainly before the Christmas vacation. The Government is thus complying with a decision arrived at in the Chamber in March last, when the question of tuberculous functionaries was brought before it, and resulted in a demand, supported also in the Senate, for legal intervention, which the Government then undertook to consider.

The International Congress on Refrigeration.

The Second International Congress on Refrigeration, alluded to under its popular title of "the Cold Congress" in previous communications, met at Toulouse from Sept. 22nd to 25th, and included a medical section, under the presidency of Professor Gariel. In this section M. Dieulafé described the methods used at the Faculty of Medicine of Toulouse for freezing bodies and making thin sections of them which could be thrown on the screen during the course. Surgeon-Major Viry called attention to the numerous advantages derivable from the use of frozen foodstuffs by the army in time of war, and insisted on the sanitary conditions that must be ensured in regard to frozen meats in time of peace. M. Martel insisted on an improvement of alimentation by the use of refrigeration in France, and said that not only ought the State to interest itself in the establishment of refrigerators in abattoirs, the importance of which was very great from the point of view of the defence of the country, but that it was also necessary to abolish the antiquated regulations that forbade the killing and eating of pork in summer in the cities of the south. M. Apert drew the attention of the Congress and of specialists in refrigeration to the necessity for equipping institutions where sick infants were cared for with means for maintaining a cool temperature during the summer heat. M. Magitot pointed out that one of the most vexed questions at present was that of the survival of organisms or of tissues separated from the organism. Physiologists had now sufficiently investigated this matter to justify the expectation of an early solution. Care must always be taken not to confound survival with conservation. M. Paul Delbet dealt with the production of cold by carbonic acid snow in the treatment of certain surgical and dermatological affections. Finally, M. Lortat-Jacob discussed the use of carbonic acid snow, liquid air, and cold rooms in therapeutics.

Hygiene in France.

The recorder of the Commission Permanente des Epidémies, Professor Gaucher, on Oct. 1st submitted his report on the epidemics of 1912. He first remarked on the meagreness of the documentary evidence furnished to the commission. The few works of interest received, he said, had been furnished by persons hitherto unknown in State hygiene. The better that work was paid, it seemed, the worse it was done. The lacunæ left by the service of public hygiene in France were enormous. People were not sufficiently concerned over the ravages of venereal disease. Some inspectors of the service of hygiene could be commissioned to search out the causes of venereal maladies. As to the leper, nothing had been done. Hundreds of lepers were free to move about unrestrained by isolation and without any method of disinfection. As the period of incubation was very long—even as long as 28 years—it constituted a grave menace to the public health, not only to allow French lepers to move about freely in the country, but not even to close the frontiers to lepers coming from the Antilles or from South America. Regarding tuberculosis, Professor Gaucher is not a supporter of compulsory notification, but he thinks that the disinfection of dwelling-places should be assured after the departure of every lodger and after every death from any cause whatever. The Academy of Medicine unanimously approved the report.

Curable Forms of Angina Pectoris.

On Oct. 1st M. Fiessinger read before the Academy of Medicine a paper in which he showed that angina pectoris, of the form in which the pains are aroused by walking or effort, is not due to any single cause. Out of 80 patients under observation for many years, he has established as causes of anginal attacks disease with obliteration of the coronary artery, aortic insufficiency, certain forms of myocarditis, interstitial nephritis with hypertension, obesity, and aerophagia. The last two varieties are cured almost certainly by attention to dietetic causes. Inflammation of the coronary artery, which is frequently due to a specific taint, yields to mercurial treatment. Iodides in small doses cause a disappearance of the pains of aortic insufficiency. To deal with the pains caused by interstitial nephritis, digitalin in small doses is prescribed, with theobromine and laxatives. The appearance of a functional mitral insufficiency by dilatation of the auricle consequent on effort is a spontaneous means of improvement. In cases of myocarditis, also, recourse is had to digitalin in small doses and to theobromine. To these therapeutic methods must be added certain remedies suitable to nearly all forms—the nitrites, morphia (gramme 0·001 every three hours in cases of subintrant attacks), and especially prolonged rest in bed with small meals (seven daily) and with very small quantities of liquids. This method of alimentation generally ensures an immediate improvement, often a cure. This last occurs, as a rule, at the age of 70 years, but to secure it the treatment must last for from 15 months to three years. M. Robin spoke in support of M. Fiessinger's views.

Oct. 7th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

Professor Murri's Gift to the Ospizio Marino of Bologna.

Professor Augusto Murri has recently presented 200,000 lire to the Ospizio Marino of Bologna. The act has more than its conspicuous monetary value. It is a public announcement by one of the most prominent figures in Italian medicine of his active support of these institutions, and as such it has received wide publicity in the lay press, and is likely to benefit the kindred institutions throughout Italy. In a recent letter I spoke of these "Ospizi Marini." Almost every town of importance in Italy supports such an institution for the delicate children of the poorer classes, either upon the Adriatic or the Mediterranean seaboard. In all there are 39 of these institutions, but of these only three are kept open during the winter, those maintained by Florence and by Lucca at Viareggio, and that at Porto d'Anzio, for which the funds for this purpose were provided by the King of Italy. Professor Murri's munificence will add to these Bologna's Ospizio Marino at Rimini, the fashionable watering place of the Adriatic. In an eloquent letter to Count Piero Bianconcini, President of the Commission for the Ospizio Marino of the Province of Bologna, Professor Murri places in his hands the sum of 200,000 lire in the Italian 3½ per cent. Rendita, the interest of which, he considers, should suffice to maintain for the six months, November to April, 20 children of Bologna or its province in the Ospizio Marino at Rimini.

Occultism in Tripoli.

Professor Penne gives an account in a recent number of *Filosofia della Scienza* of his experiences with marabouts in Tripoli. He seems to have succeeded in winning their confidence in the course of philosophic conversation, and was able to arrange for a demonstration in a room in an hotel in the presence of himself, of the manager of the Agency of the Navigazione Generale Italiania, his son and his brother, of three professors, and others interested. Six marabouts arrived at the appointed hour. After some prayers and a consultation among themselves, one of them took a dagger, put the blade in his mouth, and brought it out through his left cheek until half the blade was external to the skin, without losing any blood or showing any sign of pain. With another dagger he transfixed his right cheek, with a third he pierced his throat, and others he thrust into his forearms. Everyone was able to observe that the daggers really pierced the flesh, and that on their removal they left no external mark beyond slight ecchymoses. Another marabout ran a dagger through his abdomen with no apparent ill-effects, and then ate an extraordinary quantity of nails of all kinds and sizes. He was asked how he would get rid of these, and replied that he would know no more about them, as once they entered his mouth they became like water. Among other feats one broke a glass flask and masticated and swallowed the fragments as though they had been chocolates. When asked to reveal the secret of their powers the reply was that the would-be initiate must undergo a long training with penances, fastings, and fearful trials. These marabouts seem to have been more friendly to the invader than might have been expected from past history, and it is to be hoped that they may prove to be so and not

foment resistance to the foreigner in the way that they did to the French in Tunis.

The Clinic for the Study of Industrial Diseases in Milan.

Recently the King paid a visit to the clinical institutes of Milan, and displayed a special interest in the clinic for the study of industrial diseases, where he visited the wards and was shown various cases of occupational disease, such as lead, arsenic, and antimonial poisoning. He shook hands cordially with a printer, who in the name of all the patients had thanked his Majesty for his visit and the encouragement it brought to himself and to his companions in the wards. Before leaving Milan the King sent a donation of 20,000 lire to the clinic. Shortly before, Commendatore Antonio Devoto, an Italian resident in the Argentine, also paid a visit to the clinic and left behind him on the director's bureau his card and a present of fifty 1000-lire notes.

Oct. 5th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Health of South Australia.

THE report of the Registrar-General for South Australia for 1911 has been issued. The estimated population was 411,218, made up of 208,923 males and 202,295 females. The birth-rate per 1000 was 26·89, which is the highest recorded since 1897. The death-rate was 9·82, the lowest but one on record. Infant mortality was 6·05 of every 100 registered births. The vaccination statistics are not very comfortable reading. The proportion of successful vaccinations to every 100 registered births for the year was only 12·94 per cent. In the last ten years the highest percentage was 34. Deaths from phthisis totalled 278. The proportion per 1000 of mean population was 0·68, which was slightly below that of the previous year. The mean of 27 years is 0·92.

Interesting Action by a Medical Man.

Some time ago the Adelaide United Friendly Societies had a dispute with the local profession and advertised in various States for medical officers. One of these, a Dr. Kelmar, subsequently had a dispute as to the date of his appointment and sued the friendly societies for £189 10*s.*, being a quarter's salary, for which he obtained a verdict. Against this an appeal was made, but the Court of Appeal upheld the verdict. The ground of appeal was that Dr. Kelmar should have registered in South Australia in October, 1911, whereas he did not do so till December, and did not begin duty till January, 1912. The court held it unreasonable to suppose that the plaintiff was not willing to begin duty earlier, and dated his appointment from the time it was made.

Charities Bill.

In the Victorian Legislative Assembly the Premier, Mr. Watt, introduced the Hospitals and Charities Bill, which was dropped by the last Parliament at the end of the session. Since that time it has been freely criticised and discussed, mostly from an adverse standpoint. Mr. Watt said the Government wished to interfere as little as possible with the internal economy of existing institutions. The Bill had three main features: first, the creation of a board of three commissioners to supervise and control all charitable institutions named in the schedule; secondly, that all charitable agencies must be registered; and thirdly, that intermediate hospitals were to be encouraged. The worst existing evil was the overlapping of charities. Another matter was the present enormous cost of collection of charitable funds. The three commissioners are to be paid as follows: chairman, £800 per annum, and two associates, £600. The existing office of Government inspector of charities will be abolished. The fate of the Bill is not quite clear, but it is a pet scheme of the originator.

Inebriate Institutions.

The Inspector-General of the Insane for Victoria (Mr. W. E. Jones, M.R.C.S. Eng.), in whose department is also included the administration of inebriate retreats, has made his annual report. Among the interesting points were that very few of the patients being farmers or agriculturists there was a difficulty in satisfactorily accomplishing the work of the farms attached to these retreats. A rough estimate of the cost of the treatment of each patient to the State was £8 5*s.* There had been 40 admissions to the Brightside Institution during the year. The total cost to the Government was £329. Since Lara commenced its work in 1907, 462 cases had passed through the institution, but of these, 52 had been inmates once previously, 11 had been twice previously, and 2 had been there three times before. Some patients had remained total abstainers up to their death, some years afterwards. Of 289 patients left after deducting the dead, the insane, and those expelled before treatment, the figures were: recoveries, 129, or 44·6 per cent.; benefited by treatment (i.e., the recoveries plus "improved"), 194, or 66 per cent.; failures, 95, or 34 per cent.

Suicide of a Medical Man.

Great regret has been expressed at the death of Dr. W. L. Mullen, of Melbourne, who was found dead in bed with a prussic acid bottle beside him. Dr. Mullen was for many years medical officer in the Victorian Lunacy Department, and at the time of his death was medical superintendent of the Ararat Asylum. He also held a legal qualification. He had been in bad spirits, suffering from insomnia for some time, but had shown no indications of a suicidal tendency.

The Prophylaxis of Syphilis.

The arrangements made by the Victorian Government for the provision of a male ward at the Alfred Hospital, and a female ward at the Women's Hospital, for the treatment of syphilis have been completed. This is the first time that any open attempt has been made to deal with the disease in Victoria, and it is hoped that at least some educative influence may result.

Sept. 2nd.

Obituary.

EDWARD WOAKES, M.D. LOND., M.R.C.S. ENG.,

CONSULTING SURGEON TO THE LONDON THROAT HOSPITAL; LATE SENIOR AURAL SURGEON TO THE LONDON HOSPITAL.

Dr. Edward Woakes, whose death on Sept. 30th we recorded last week, was born in 1837 at Luton, Bedfordshire, where his father practised. He was educated privately at Windsor, and joined St. Thomas's Hospital in 1854, when that hospital stood on its old site near London Bridge. At St. Thomas's he gained several prizes, including a special prize for an essay on neuralgia and the chief surgical honour of the hospital—the Cheselden medal. He qualified M.R.C.S. and L.S.A. in 1858. In 1860 he obtained the M.B. degree of the University of London, and in 1863 the M.D. degree. After holding the post of house surgeon at St. Thomas's Hospital, Dr. Woakes was compelled to abandon for a time his London career in order to assist his father in general practice at Luton. There he remained until 1876, and during that time he founded the Luton Cottage Hospital, now known as the Bute Hospital. Returning to London, he began to practise as a specialist in diseases of the throat, nose, and ear, and he continued actively at work in this department for nearly 30 years.

For some time Dr. Woakes was aural surgeon to the London Hospital, lecturer on aural surgery in the London Hospital Medical College, and surgeon to the Golden-square Hospital for Diseases of the Throat. At a later date he took part in the founding of the London Throat Hospital in Great Portland-street, and was one of its first surgeons. He was consulting surgeon to that institution at the time of his death. Dr. Woakes made several important contributions to the literature of his branch of practice. His work "On Deafness, Giddiness, and Noises in the Head" reached its fourth edition in 1896 under the joint editorship of himself and his son, Mr. Claud Woakes, and he published volumes on post-nasal catarrh and on nasal polypus. He also contributed to THE LANCET papers on Necrosing Ethmoiditis in 1885, on Cystic Goitre and Ranula in 1890, and on Nasal Vertigo in 1902. Before Meyer's discovery of the existence of adenoids was published in this country Dr. Woakes independently recognised them as post-nasal growths, while he was the first to point out the relation between nasal polypus and inflammatory changes in the ethmoid bone.

In 1904 Dr. Woakes retired from practice and went to live at Fareham in Hampshire, where he had had a country home for some years previously. He took much interest in

local affairs, both social and political, and until the last year or so was actively associated with the life of the neighbourhood. For some time past he suffered from cystitis following prostatectomy, and his death was due to uræmia. He lost his wife in 1909, and is survived by two sons and a daughter. By his death the medical profession loses a practitioner of much ability and originality of mind, who made his mark upon the surgery of the nose at a time when this branch of practice was undergoing great developments.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Otto Soltmann, emeritus professor of children's diseases in the University of Leipsic, aged 67. His researches while working in the Breslau Physiological Institute under Professor Heidenhain on the nervous system of the newly born attracted some attention. Since migrating to Leipsic, where he carried out plans for an exceedingly well-arranged children's hospital, he had also published numerous papers on pædiatric topics.—Dr. Aurel von Tözök, professor of anthropology in the University of Budapest.—Dr. K. Wagner, surgeon-general in the Bavarian army.—Dr. Gutsch, of Carlsruhe, medical privy councillor.

THE NATIONAL INSURANCE ACT.

THE RULES FOR ADMINISTRATION OF MEDICAL BENEFIT.

THE following are the Model Rules issued by the Commissioners for the Administration of Medical Benefit under the National Insurance Act. The Rules are in respect of the conduct of persons in receipt of benefit, and of procedure with regard to complaints.

1. *Conduct of Person in Receipt of Medical Benefit.*

An insured person in receipt of medical benefit shall comply with the following rules:—

(*a*) He shall obey the instructions of the practitioner attending him:

(*b*) He shall not conduct himself in a manner which is likely to retard his recovery:

(*c*) He shall not make unreasonable demands upon the professional services of the practitioner attending him:

(*d*) He shall, whenever his condition permits, attend at the surgery or place of residence of the practitioner attending him on such days and at such hours as may be appointed by the practitioner:

(*e*) He shall not summon the practitioner to visit him between the hours of ..... P.M. and ..... A.M., except in cases of serious emergency:

(*f*) He shall, when his condition requires a home visit, give notice to the practitioner, if the circumstances of the case permit, before ..... A.M. on the day on which the visit is required.

2. *Offences.*

(1) The Committee may in their discretion inflict a fine upon any insured person who is guilty of a breach of any of these rules or of any of the provisions of the Act relating to medical benefit or of the Regulations or of any imposition or attempted imposition in respect of medical benefit, of a sum not exceeding ..... shillings,[1] or in the case of repeated breaches ..... shillings,[1] and may, in the case of repeated breaches, suspend his medical benefit for a period not exceeding .....[2]: Provided that if any act or omission alleged to constitute a breach of these rules is of such a nature as to amount to a breach of any rule of a Society of which the insured person is a member, the Committee shall refer the matter to the Society and unless the Society has unreasonably refused to take action or the action taken by the Society appears to the Committee to be inadequate shall not deal with the matter themselves except by way of transferring the insured person, in cases where after inquiry they think fit, to another practitioner on the panel.

(2) Any question arising between the Committee and a Society under this rule shall be referred to the Commissioners.

3. *Infliction of Penalties.*

Before inflicting any penalty upon an insured person or transferring him to another practitioner the Committee shall give notice to that person of their intention, and if within seven days from the receipt of the notice he gives notice to the Clerk to the Committee that he desires to be heard in explanation of his conduct, the Committee shall, except in cases where the facts have already been investigated by the Committee of Complaints, fix a date for the hearing by the Committee, or shall refer the matter to the Committee of Complaints, and when the matter is heard by the Committee not less than seven days' notice shall be given to the insured person of the date fixed for the hearing.

4. *Procedure of Committee of Complaints.*

Where under the provisions of the Regulations any complaint is referred to the Committee of Complaints the following procedure shall be adopted:—

(*a*) The clerk to the Committee shall, within three days, send a copy of the complaint to the person against whom the complaint is made and a copy to the Chairman of the Committee of Complaints, and shall upon receipt of any reply or further statement or reply made by either party send a copy thereof to the other party and to the chairman.

(*b*) The Committee of Complaints shall meet at least once in every ..... weeks, and in a case of urgency the chairman may summon a special meeting by giving not less than seven days' notice to every member of the Committee of Complaints.

(*c*) Not less than seven days' notice of the meeting at which a complaint is to be heard shall be given to both parties.

(*d*) The Clerk to the Committee shall supply to each member of the Committee of Complaints copies of the complaint and the reply if any thereto, and of any further statements made by either party.

(*e*) Either party shall be entitled at the hearing to make such statement and produce such evidence, whether written or otherwise, as he may think fit.

(*f*) The Chairman together with one representative of insured persons and one of the persons appointed by the Local Medical Committee or by the practitioners on the panel shall form a quorum.

5. *Frivolous or Vexatious Complaints.*

Any insured person making a complaint to the Committee which, after investigation by the Committee or the Committee of Complaints, appears to the Committee to be frivolous or vexatious, shall be deemed to have committed a breach of the rules.

6. *Interpretation.*

Words and expressions used in these Rules have the same meaning as in the National Health Insurance (Administration of Medical Benefit) Regulations, 1912, which are in these Rules referred to as "the Regulations."

[1] Section 14 (2) (*a*) of the Act provides that "*no fine imposed ..... shall exceed ten shillings, or in the case of repeated breaches of rules twenty shillings.*"

[2] Section 14 (2) (*b*) provides that "*no ..... rule shall provide for the suspension of any benefit for a period exceeding one year.*" Section 69 (1) of the Act provides that "*if for the purpose of obtaining any benefit or payment ..... under this Part of this Act any person knowingly makes any false statement or false representation, he shall be liable ..... to imprisonment for a term not exceeding three months.*" Section 71 of the Act provides, "*If it is found at any time that a person has been in receipt of any payment or benefit under this Part of this Act without being lawfully entitled thereto he or in the case of his death his personal representatives shall be liable to repay to the Insurance Commissioners the amount of such payment or benefit and any such amount may be recovered as a debt due to the Crown .....*."

RESIDENT MEDICAL OFFICERS AND THE INSURANCE ACT.

Application having been made to the Insurance Commissioners for the determination under Section 66 of the National Insurance Act of the question whether resident medical officers or other qualified resident officials at a hospital are employed by the hospital authorities under a contract of service within the meaning of the National Insurance Act, the Commissioners give notice that a hearing of parties interested will take place on Tuesday, Oct. 22nd, at 2.30 P.M., at the Civil Service Commission, Burlington Gardens, London, W. Any persons interested who desire to be heard before the decision is given should give not less than three days' notice to the Insurance Commissioners of their intention to attend or be represented at the hearing. Statements in writing made by persons affected will be considered if submitted not later than the day preceding that fixed for the hearing.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At the Second Professional Examination in Anatomy and Physiology, held on Sept. 26th, 27th, and 30th, and Oct. 1st, 80 candidates presented themselves, of whom 46 were approved and 34 were rejected. The following are the names of the successful candidates:—

Ahmed Zaky Abushady, Cairo and University College; Douglas Reid Alexander, St. Mary's Hospital; Percy William Lavers Andrew, Middlesex Hospital; Mahmud Bayumi, Cairo and London Hospital; Percy Herbert Burton, London Hospital; Seemampillai Francis Chellappah, L.M.S. Ceylon, Ceylon Medical College and London Hospital; Ferozeshaw Bapuji Chenoy, L.M.S. Bombay, Bombay University and London Hospital; Trimbak Lakshman Chiplonkar, Bombay University and Middlesex Hospital; George Edwin Chissell, Middlesex Hospital; Joseph Woods Clayton, Adelaide University and London Hospital; William Lonsdale Cockcroft, Manchester University; Thomas William David, Cardiff and St. Bartholomew's Hospital; John Kenyon Davies, University College, Cardiff; Alfred Kay Day-Lewis, Guy's Hospital; Harry Hope Fisk, St. Mary's Hospital; Edmund Douglas Granger, St. Thomas's Hospital; Edwin Allan Thomas Green, L.D.S. Eng., Manchester University; James Alfred Gregory, Manchester University; Henry Judson Grimshaw, Liverpool University; Dorothy Muriel Henty, London School of Medicine for Women; Henry Francis Thomas Hogben, Guy's Hospital; Claude Osborne Hudson, Sheffield University; William Baly Jepson, St. Bartholomew's Hospital; Nicholas Edward Kendall, Guy's Hospital; Louis Gaston Le Blanc, St. Bartholomew's Hospital; James Stuart Leslie, London Hospital; Eric Delafield Lindow, King's College; Henry Guy Ludolf, Leeds University; James McDonnell, London Hospital; Owen Sidney Martin, University College; George Stanley Mitchell, King's College and Westminster Hospital; Sadek Girgis Moftah, Cairo and London Hospital; Arthur Daniel Morris, University College; Nava Ratnam Nalliah, Ceylon Medical College and London Hospital; Lloyd Desbat Phillips, University College; William Leonard Elliot Reynolds, Guy's Hospital; Harold Dobson Pickles, Leeds University; John Douglas Rutherford, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Noel Archibald Scott, St. Bartholomew's Hospital; John Hunter Sewart, University College; Reginald Frederick Sturridge, Middlesex Hospital; David Page Thomas, St. Bartholomew's Hospital; Eric Morse Townsend, Middlesex Hospital; Algernon Randolph Upton, St. Bartholomew's Hospital; Harold Vickers, St. Mary's Hospital; and Robert Harvey Williams, St. Bartholomew's Hospital.

At the First Professional Examination of the Conjoint Board, held on Oct. 1st, 2nd, 3rd, and 4th, the following candidates were approved in the undermentioned subjects:—

Chemistry and Physics.—Esawy Ahmed, London Hospital; Geoffrey Francis Cobb, St. Bartholomew's Hospital; John Harold Ewen, Edinburgh University and St. Mary's Hospital; John Morgan Hughes, M.P.S., Middlesex Hospital; Wilfred Kilroe, Guy's Hospital; John Macadam, St. Bartholomew's Hospital; and John Andrew Adamson Prinski Scott, London Hospital.

Chemistry.—Noel Arthur Hamilton Barlow, Guy's Hospital; John Henry Cox Eglinton, Bristol University; El Sayed Gouda, Cairo and London Hospital; Frank James Harrington, Guy's Hospital; Arthur Neil McMillan, Middlesex Hospital; and George Vaughan Richards, Guy's Hospital.

Physics.—Edwin Butler, Bristol University; Edwin Alfred Clegg, Middlesex Hospital; Frederick Graham Leslie Dawson, Plymouth Technical Schools; Gerald Hartas FitzGerald, Guy's Hospital; Richard Moser, St. Bartholomew's Hospital; Ahmad Hussein Samy, St. Bartholomew's Hospital; Ernest Wayte Terry, Manchester University; Henry George Watters, London Hospital; and Harry Mortimer Wharry, St. Bartholomew's Hospital.

Biology.—William James McBain Allan, South-Western Polytechnic; Louis Edmund Claremont, Middlesex Hospital; Saad el Din Ahmed Daab, Cairo and King's College; Leonard Henry Dardier, London Hospital; John Anderson Hill, London Hospital; Hugh Morris-Jones, St. Mungo's College, Glasgow; Reginald Mears Sidgwick, Brighton Municipal Technical School; Frederick Elliott Smith, Middlesex Hospital; and Edgar Arthur Tomes, South-Western Polytechnic and Guy's Hospital.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At the Preliminary Science Examination for the Licence in Dental Surgery the following candidates were approved in the respective subjects:—

Chemistry and Physics.—James Frank Cowell, Douglas District Secondary School; William Anthony Johns, Royal Dental Hospital; Louis Philip Richards, Guy's Hospital; Eleanor Cannell Watterson, Douglas District Secondary School; and Clarence Leslie Brunel White, Royal Dental Hospital.

Chemistry.—Ernest Horace Bryant, Guy's Hospital; Cecil Stanley Southwell, Birkbeck College; and William Cochrane Woodall, Salford Technical Institute.

Physics.—John Frederick Batsford, West Ham Technical Institute; Henry Hall Buckley, Salford Technical Institute; Harold Pembroke Mabe, Sheffield University; and Cecil Murray-Shirreff, Bristol University.

UNIVERSITY OF GLASGOW.—The following have passed the first professional examination for the degrees of M.B. and Ch.B. in the subjects indicated (B., botany; Z., zoology; P., physics; C., chemistry):—

George Waldo Allan (B., P.), Alexander Basil Austin (B., P.), John William Waddell Baillie (B., P.), William Baird (C.), Joseph Edward Bannen (B., P.), William Barras (C.), James Beveridge (Z., C.), Monindra Nath Bhattacharjee (Z., C.), Thomas Blackwood (Z., C.), Robert Mitchell Stewart Boyd (B., P.), James Prowse Broom (B., P.), Archibald Campbell Brown (B.), Henry Drummond Brown (B., P.), John Alexander Buchanan (B., P.), Stuart Ernest Armstrong Buckley (B., P.), David Campbell, M.A., B.Sc. (B., Z.), Thomas Watson Carstairs (C.), Thomas Cuthbertson Christie (B., P.), David Clyde (B., P.), Douglas Hamilton Coats (C.), William Kerr Connell (C.), Archibald Shankland Cook (C.), Alexander John Copeland (B., P.), James Crerar (B., P.), John Norman Cruickshank (B., P.), Robert Cunningham (B., Z., P., C.), Andrew Dick (B., P.), James Hamilton Dobbin (B., P.), James Ferguson Duthie (B., P., C.), Kenneth Henry Dyke (B., P.), Samuel Norman Dykes (B., P.), James Ewing (B., P.), Basil William Henry Fergus, (B., P.), Fritz Eberhard Ferguson (P.), James Brown Fisher (B., Z., P.), Lewis Livingstone Fotheringham (B., P.), Arthur Blair Gibson (B., P.), Kenneth John Alexander Gillanders (B., P.), Peter Fife Auchinachie Grant (C.), Thomas Gray (B., P.), William Gay (B.), Archibald Harper (B., Z.), William Eric Haydon (B., Z.), Frederick William Hebblethwaite (B., P.), Samuel John Henderson (B., P.), James Charles Hendrie (B., P.), Henry Fielden Hollis (B., P.), James Neil Jamieson (P.), Oswald Johnston (C.), Stewart Johnstone (B., P.), Arthur Kennedy, M.A. (B., P.), James Liddell (B.), Frederick Colquhoun Logan (B., P.), William Wilson Lundie (B., P.), Kenneth M'Alpine (B., P.), Hugh Ernest M'Coll (B., Z.), William Ritchie M'Crae (B.), John Ronald M'Crindle (B., P.), Edward Macfarlane (B., P.), Arthur M'Gowan (Z.), Alexander M'Cheyne Macintosh (B., P.), Douglas Bower M'Intosh (C.), John Ebenezer MacIntyre (B., P.), Neil Mackillop (B., P.), James MacAlister Mackintosh (Z., C.), Duncan M'Laren (Z.), George Maclean (B., Z.), John Wilson Maclean (B., P.), Peter Donald MacLean, M.A. (B.), John Macleod (B.), Peter M'Luskie (B., P.), Alexander Fisher M'Millan (B., P.), Findlay Kerr Macmillan (B., P.), William M'William (B., P.), Frederick Robertson Martin (C.), Alexander M'Callum Millar (P.), George Macleod Millar (B., C.), David Stephen Mitchell (B., P.), William Watson Morrison (Z.), James Orr (C.), William MacCall Boyd Orr (B.), James Alexander Paterson (P.), James Walker Patterson (B., P.), George Pearson (B., P.), Andrew Christie Philps (B., Z., P.), James Prentice (B., P.), Thomas Joseph Quigley (B., P.), James Gordon Rennie (Z.), Samuel Murdoch Riddick (B., P.), Alexander Wilkie Ritchie (B., C.), Ian Menteith Robertson (B., P.), Kenneth Mann Rodger (B., Z., P., C.), Robert Rodger (B., P.), Frederick James Gordon Rolland (B., P.), Frank Watt Sandeman (B., P.), Angus M'Alpine Scott (B., P.), William Scott (B., P.), Henry Buchan Sergeant (B., P.), Alexander Wallace Sinclair (B.), Andrew Wauchope Smith (B., P.), Clarence Lorraine Somerville (B., P.), Herbert Harold Spencer (B.), James Steel (B., P.), John Steele (B., P.), Abraham Raphael Steinberg (B., P.), John Stewart Stewart (B., P.), Pat Adam Stewart (Z.), Thomas Stewart Stirling (B., P.), Archibald Sutherland Strachan (P.), Henry Stuart (B.), George Carson Swanson (B;, P.), John Brunton Sweet (C.), Douglas Taylor (B., P.), Clement Bennet Templeton (C.), Herbert Watt Torrance (B., P.), James Joseph Treanor (B., C.), Robert Nisbet Walker (B., P.), Robert Smellie Weir (C.), Kenneth John Talbot Wilson (B., P.), John Thomas Wylie (C.), and Robert Young (C.).

Women.—Janetta Margaret Alexander (B., C.), Marjorie Mason Anderson (B., P.), Mabel Nellie Blake (B., P.), Winnifred Jane Crawford (B., P., C.), Mary Brown Gillespie (B., P.), Margaret Hutchison Glen (B., P.), Leah Fajvelevna Goetz (P.), Jean Lawrie Hamilton (B., P., C.), May Constance Boughton Leigh (Z., C.), Margaret Jane Thorburn Leitch (P.), May Elizabeth MacIver (B., P.), Lilias Maclay (B., P.), Mary Ann MacLennan MacLean (B., P.), Elizabeth Stewart Martin (C.), Margaret Kay Mitchell (B., P.), Mercedes Margaret Morton (B., Z.), May Isabella Turner Reid (B., P.), Margaret Nelson Robertson (P.), Jane Stalker (Z., C.), Marion Watson (B.), Mary MacLean Weir (B., Z.), and Alison Edgar Wilson (B., P.).

The following passed with distinction in the subjects indicated:—

Botany and Physics.—Henry Buchan Sergeant and Clarence Lorraine Somerville.

Zoology and Chemistry.—Jane Stalker.

Botany.—James Brown Fisher, Arthur Blair Gibson, Thomas Joseph Quigley, and Miss Alison Edgar Wilson.

Zoology.—George Maclean.

Physics.—John William Waddell Baillie, Joseph Edward Bannen, Alexander John Copeland, Mary Brown Gillespie, Thomas Gray, Lilias Maclay, Archibald Sutherland Strachan, Herbert Watt Torrance, and Kenneth John Talbot Wilson.

The following have passed the Second Professional Examination for the degrees of M.B. and Ch.B. in the subjects indicated (A., anatomy; P., physiology; M., materia medica and therapeutics):—

Ismail Abdurahman (P., M.), George Kirkwood Allan (A., P., M.), James Mair Anderson (A., P., M.), John Anderson (M.), Robert Armstrong (A.), Andrew Duffield Blakely (M.), William Ernest Boyd, M.A. (A., P.), Maurice Smith Bryce (P.), John Buchanan (M.), William Edmund Alexander Buchanan (A., P.), John Cameron (P.), James Campbell (A., P., M.), John Munro Campbell (A., P.), Alfred Mackenzie Clark (A., P.), Allan La Barte Clark (M.), Robert Clark, M.A. (M.), Andrew Climie (A., P.), William Combe (A., P.), James Paterson Crawford (M.), William Cullen (A.), Fritz Vivian Daeblitz (M.), William Donald (M.), Thomas Ingram Dun (A., P., M.), Dugald Ferguson (P.), Thomas Ferguson (A., M.), Harry Taylor Findlay (A., P.), James Jackson Finlay (A., M.), George Fleming (M.), Ian Maclean Frazer (A., P., M.), Walter Weir Galbraith (A., P.), Leonard Woodburn Gemmell (M.), Alexander John Gibson, M.A. (P., M.), John Gilchrist (P., M.), Peter Gordon (P.), Ronald Thomson Grant (A., P.), Robert Masson Greig (M.), David Cochrane Hanson (M.), David Hardie, M.A. (M.), Joseph Welsh Park Harkness, M.A. (A., P., M.), Rollo Isbister (A., P.), Alastair Caulfield Jebb (M.), Douglas Reid King (P.), John Crawford Knox (A., P.), Robert Milne Lang (A., P.), George M'Callum (P.), Hugh Douglas M'Crossan (A.), Archibald Munn M'Cutcheon (A., P.), Robert William MacDonald (M.), Donald M'Intyre (M.), Donald M'Donald M'Intyre (M.),

James Murdoch Mackay (A., P.), David Mackie (A., P.), Robert Hugh M'Killop (M.), Joseph Allan MacLean (A.), Eric John MacPhail (P.), James Kennedy Manson (M.), Andrew Paton Martin (M.), Walter John May (M.), William Meikle (M.), Prem Nath (A., P.), John Roberts Pate (M.), James Paterson (P., M.), John M'Lean Pinkerton, B.Sc. (M.), John Stuart Prentice (M.), William Burns Primrose (A., P.), Hugh Quigley (A., P.), Frederick Powlett Rankin (M.), Thomas Forbes Brown Reid (M.), Robert Cecil Robertson (A.), Alexander Forbes Ross (A.), Alexander Scott (A., P., M.), Seymour Cochrane Shanks (A., P.), William Frederick Shanks (A., P.), John Smith, M.A., (A., M.), Norman M'Gaan Smith (M.), John Banks Steven (A., M.), John Fraser Steven, M.A., (A.), John Symington Stewart (M.), Robert Sutherland Strachan (A., P.), Robert Tennent (M.), Cecil Raymond Tytler Thompson (A., M.), James Vallance (M.), James Walker (A., P.), William Semple Wallace (M.), William James Cunningham Watt (M.), Joseph Bannister Williamson (M.), James Gordon Wilson (P., M.), Thomas M'Skimming Wilson (M.), Alexander Young (A.), Gavin Young (M.), and John Miller Young (P.).

Women.—Grace Gillies Turnbull Anderson (M.), Ethel Winifred Gompertz (A., P.), Janet Fraser Henderson (P.), Gladys Montgomery (M.), Margaret Walker (A.), Grace Birrell Whish (A., P.), and Isabella Henrietta Younger (A., P.).

The following passed with distinction in the subjects indicated:

Anatomy and Physiology.—Seymour Cochrane Shanks.

Physiology.—Alfred Mackenzie Clark, Ronald Thomson Grant, Joseph Welsh Park Harkness, M.A., John Crawford Knox, Archibald Munn M'Cutcheon, William Frederick Shanks, and Robert Sutherland Strachan.

The following have passed the Third Professional Examination for the degrees of M.B. and Ch.B. in the subjects indicated (P., pathology; M., medical jurisprudence and public health):—

Archibald M'Allister Blackwood (M.), John Smith Knox Boyd (P., M.), John Joseph Burke (M.), John Cameron (P.), William Leonard Cassells, B.Sc. (P.), Thomas Muir Crawford (M.), Walter Thompson Currie (P., M.), Joseph Dunbar (P., M.), James Bryan Fotheringham (M.), Adolph Robert Hanns Geyer (M.), Ian Dingwall Grant (P., M.), John Wishart Welsh Hewitt (P., M.), Thomas Cameron Houston (M.), James Robertson Cowper Mackintosh (P.), Robert Martin M'Minn (M.), Ewen Stewart Macphee (M.), William Strelley Martin, M.A. (M.), Osborne Henry Mavor (M.), Thomas Augustine O'Brien (P.), Robert Parker (P.), Angus M'Innes Ramsay (P.), David Reid Eccles Roberts (P., M.), Stuart Dewar Robertson (P., M.), Henry Stewart, M.A. (P.), Ronald Stewart (P., M.), William Ballantine Stewart (P., M.), Ian Dishart Suttie (M.), Edward Napier Thomson (P.), John Cuthbertson Walker (P.), Henry Currie Watson (M.), and William Herbert Nairne White (P.).

Women.—Cecilia Small Turnbull Anderson (P.), Janet Rankine Anderson (M.), Margaret Jarvey Brown (M.), Ethel Crawford (M.), Mary Pringle Hislop (M.), Annie Rankine M'Kail (M.), and Sarah Anderson Jamieson Rankine (M.).

The following have satisfied the examiners in the Fourth (Final) Professional Examination:—

Degrees of M.B., C.M.—John Joseph Lowell, L.R.C.P.

Degrees of M.B., Ch.B.—Samuel Blumenfeld, Charles Brash, Adam Brown, William Brown, John Scouler Buchanan, James Wilson Burton, John Humphrey James Victor Coats, Jane Malcolm Davidson, James Henry Dible, John Dickie, William Beatson Drummond, John Maitland Forsyth, John Erskine Fyfe, Alexander Muir Gibson, Maggie Logan Kirkwood, Robert Aim Lennie, James Ronald M'Curdie, Charles Aloysius M'Guire, Guy Dalzell M'Lean, John Malcolm Macpherson, Thomas Martin, Kenneth Duncan Murchison, Andrew Peden, James Francis Quigley (Lambhill), David William Reid, John Ritchie Richmond Ritchie, Alfred Leopold Robertson, Edwin Robertson, James Hinton Robertson, James Inglis Robertson, Frank Shearar, John Finlayson M'Gill Sloan, Alexander Robert Bogue Soga, Graham Stevenson, Ronald Stewart, William Patrick Andrews Stewart, William Taylor, John Cameron Thomson Teggart, Janet Morris Walker, George Milroy Whish, Frederick John Whitelaw, Thomas Whitelaw, and William Ferguson Wood.

The following passed with distinction in the subjects indicated:—

Surgery, Clinical Surgery, Practice of Medicine, and Clinical Medicine.—James Inglis Robertson.

Surgery and Clinical Surgery, and Midwifery.—James Henry Dible.

Practice of Medicine, Clinical Medicine, and Midwifery.—Thomas Martin.

Surgery and Clinical Surgery.—Jane Malcolm Davidson and Alexander Robert Bogue Soga.

Midwifery.—William Beatson Drummond, John Malcolm Macpherson, David William Reid, James Hinton Robertson, and William Taylor.

UNIVERSITY COLLEGE HOSPITAL.—The annual dinner of past and present students was held on Oct. 2nd at the Café Royal, with Sir Rickman J. Godlee, President of the Royal College of Surgeons of England and surgeon to the hospital, in the chair. There was a large attendance. The toast of the evening, "University College Hospital and Medical School," was proposed by the chairman in felicitous terms. In his speech he touched lightly but with gravity upon such weighty and controversial subjects as the present state of the University of London, medical education in London, a State examination in medicine, and the Insurance Act. The toast was responded to by the Dean of the medical school, Dr. George Blacker, in a remarkably fine speech, full of wit and literary allusions, brilliantly delivered. The health of the chairman was proposed by Sir Thomas Barlow, President of the Royal College of Physicians of London and consulting physician to the hospital.—The Goldsmid entrance exhibitions in anatomy and physiology for the winter session, 1912–13, have been awarded to M. S. Woolf, M.A., University of Birmingham, and W. T. Collier, B.A., Balliol College, Oxford.

ST. MARY'S HOSPITAL.—On Oct. 1st the Lord Mayor, Sir Thomas Crosby, was present at the opening of the winter session of St. Mary's Hospital Medical School. Dr. Sidney Phillips was in the chair. The Dean, Sir John Broadbent, in presenting his report, commented on the great increase in the work and expenses of teachers at medical schools at the present time, as compared with the years past when the present fees were arranged. The fees for a five years' curriculum at the hospital, he said, were equal to only one year's fees at a large public school. He thought it was time for the schools to consider whether the fees should not be raised sufficiently to make the schools pay their way. He did not think the Insurance Act had had time as yet to cast its baneful and depressing influence over the medical schools, but he feared that in time it would reduce the medical profession to the level of a trade union, hindering scientific research and preventing the entry of suitable students into the medical profession. It was announced that teachers in St. Mary's Hospital Medical School had been appointed to the professorship of Experimental Pathology (Sir Almroth Wright) and to the readerships in Chemistry (Dr. George Senter) and in Zoology (Dr. W. G. Ridewood) by the London University. The Lord Mayor presented the prizes. In a short address he expressed the hope that when the report of the Commission on University Education in London was issued, there would be a recommendation that those men who took the Conjoint Diploma should have a real degree instead of merely being allowed to place a string of letters after their names. He advised all students not to leave the four walls of the hospital until they had laid a foundation in granite for their future life; then they would have, when they went to practise in the Empire beyond the seas, a superstructure up to date and of the most perfect character. It was important, he said, that medical men should take their share of service in rural or corporate bodies. They knew much better than engineers what was wanted for the health of the people. He concluded by saying: "I will not allude to a political question, but I find it difficult to keep out all reference to it. I have received many earnest applications from brother professional men who thought, with justice I think—although that must be regarded as *sotto voce*—that they were not having fair treatment at the hands of the Government. They, however, have taken the matter into their own hands and I think they will succeed." Dr. Phillips, in proposing a vote of thanks, referred to the Insurance Act. Mr. Lloyd George, he said, had claimed the Act as one of the greatest social reforms of modern times, and at the same time had owned that it depended for its successful carrying out on the whole-hearted support of the medical profession; yet he had not considered it necessary to consult the medical profession until after the clauses were framed. Mr. Lane seconded the vote of thanks. The Lord Mayor then opened the new casualty department, and ended the afternoon with a visit to the new clinical pathology laboratory.——The annual dinner of the staff and past and present students in the hospital was held on Oct. 2nd in the Grand Hall, Piccadilly Restaurant, about 160 being present. Dr. W. J. Gow occupied the chair, and among the guests present were the Lord Mayor (Sir Thomas Crosby, M.D.), Sir James Porter (Director-General of the Navy Medical Department), Sir William Gubbins (Director-General of the Army Medical Department), and Mr. Austen Leigh (chairman of the Hospital Board). The chairman, in proposing the toast of St. Mary's Hospital and Medical School, referred feelingly to the loss sustained by the hospital during the past year in the deaths of Mr. A. T. Norton and of Mr. George P. Field, for many years dean of the Medical School, whom he characterised as the best dean the hospital had ever had. As the hospital was founded in 1852, he said, it was now celebrating its diamond jubilee. In a report published at the time of its foundation the institution was described as a hospital for the sick poor and an institution for educating youth in medicine and surgery, revealing the curious and powerful instinct to teach present in the heart of man. He referred to the

advantage to the individual patient arising out of the presence of the medical student, not only in his helping to carry out without expense much of the laborious minor detail upon which efficient treatment depended, but also because the medical student was always a critic, and a candid critic, of events. He referred to the excellence of the English custom of dining and said that medical men were always excellent diners-out, though in that respect it behoved him to speak with diffidence in the presence of the Lord Mayor and the sheriff. He expressed the thanks of the school to the board of governors for its invariably kind consideration, and coöperation. He pointed out the curious fact that entries into the medical profession ran in cycles. Mr. Austen Leigh, in responding, said that last year he had expressed the determination of the governing body to bring all existing insanitary conditions in the hospital to an end, and this determination had now been carried out. The past year had been one of the most eventful in the history of the hospital. There had been great receipts, but also great expenditure, but they looked forward to a material financial recuperation during the coming year. Sir John Broadbent spoke of the institution of the new pathological department. Dr. Sidney Phillips proposed the health of "The Visitors," and took the opportunity of eulogising the army and navy medical services. The Lord Mayor responded with a vigour of tone that lent verisimilitude to his assertion that he was a very young man. When he stated that his proper bedtime had already arrived there was no appropriate indication of weariness in his manner, and his exit was honoured with a general rising and much loud acclaim. Mr. Ernest Lane, in a reminiscent speech delivered with much dry humour, proposed the health of "The Chairman," which was drunk with enthusiasm.

FOUNDER'S DAY AT EPSOM COLLEGE.—The council, masters, and pupils of Epsom College gave the Lord Mayor, the Lady Mayoress, and the Sheriffs a cordial welcome on Saturday, Oct. 5th, on the occasion of their visit to the College for the purpose of celebrating Founder's Day. The Lord Mayor and the Sheriffs were attired in their official robes, and were accompanied by the sword- and mace-bearers. The proceedings began with a luncheon in the new College gymnasium, to which about 90 sat down, and many present considered that the gymnasium was one of the best to be found attached to a public school. In proposing the toast of "The King," patron of the College, the chairman, Sir William Church, referred to the visit of His Majesty to the College in 1903, when Prince of Wales, on the eve of his taking the chair at a dinner in aid of the foundation attached to the College, the reason given for such visit being that His Majesty did not like to be associated with any institution or organisation with which he was not personally acquainted. This thoroughness, the chairman said, was the key to His Majesty's character. In proposing the healths of the Lord Mayor and the Sheriffs, the Head Master expressed the general regret that the treasurer of the College, Sir Henry Morris, was unavoidably prevented from presiding at the luncheon. After attending service in the College chapel, the visitors, together with parents and friends of the pupils to the number of close upon 400, went to the big schoolroom for the distribution of prizes. Amongst those on the platform were the Lord Mayor, Mr. Alderman and Sheriff Cooper, Mr. Sheriff Bower, the Head Master, Sir William Church, Sir Shirley Murphy, Sir Trevor Lawrence, Sir Alan Reeve Manby, Sir Malcolm Morris, Mr. Stanley Boyd, Dr. Nestor Tirard, Mr. Andrew Clark, Dr. William Collier, Dr. Clement Godson, Dr. F. de Havilland Hall, Dr. Frederick Needham, Mr. Bilton Pollard, Dr. Guthrie Rankin, Dr. Frederick Taylor, Dr. J. Roberts Thomson, and Dr. Charles Caldecott. The Head Master having reviewed the work of the College and the educational successes during the past year, the prizes were distributed by the Lord Mayor, who at the close of the distribution addressed the boys on the importance of making the most of school life. After the prize distribution the visitors were served with tea in the dining-halls, one of which has just been constructed. Subsequently they inspected the numerous additions and rearrangements which have been recently made to the College buildings at a cost of over £20,000, comprising the Markham Skerritt laboratories, increased lavatory and box-room accommodation, a music block, a carpenter's workshop, a gymnasium, the masters' new common rooms, and extensive alterations to Forest House.

THE Royal Free Hospital has completed the purchase of 1¼ acres of freehold land adjoining their premises in Gray's Inn-road, W.C. It is intended that building operations for the new out-patient department shall be proceeded with forthwith.

ANCOATS HOSPITAL, MANCHESTER.—Post-graduate clinics, similar to those given in previous years, are being conducted at this hospital by its honorary staff. The opening clinic of the session was held on Thursday last, Oct. 10th.

THE ROYAL SANITARY INSTITUTE.—A provincial sessional meeting will be held on Saturday, Oct. 26th, in the Assembly Rooms, Alton, Hants, at 11.15 A.M., when discussions will take place on Housing Problems in County Areas, to be opened by Dr. R. A. Lyster, medical officer of health, County of Southampton, and on Municipal Work in Alton.

ST. GEORGE'S HOSPITAL.—The annual dinner of the old students of St. George's Hospital was held at Prince's Restaurant on Tuesday, Oct. 1st, with Dr. F. G. Penrose in the chair. In proposing the toast of "The Hospital and the Medical School" he referred to the hard times that seemed to lie ahead of all hospitals and medical schools, but especially those of London, at the present moment. Responding on behalf of the governors, Mr. A. William West emphasised the good relations existing between the governors and the staff, while Dr. R. S. Trevor, acting dean of the school, gave an encouraging report of its progress during the past year. The health of the orator of the day, Dr. H. B. Grimsdale, was proposed by the senior surgeon to the hospital, Mr. G. R. Turner, in a forcible and felicitous speech, the orator returning thanks with his usual deftness. The health of the past and present students and St. George's Hospital Club was next proposed by Mr. E. B. Turner, who, after recalling the days of long ago when St. George's was ahead of all the other London Hospitals in athletics and Rugby football, kept his hearers deeply interested while recounting his experiences of the development of the Insurance Act. Sir Frederic Hewitt, M.V.O., in replying, traced the growth of St. George's Hospital Club, founded four years ago, and also gave an account of the athletic ground and pavilion for the use of the school at Wimbledon, to be opened and used for the first time on Oct. 3rd. Mr. J. Ellison also responded in an excellent speech on behalf of the junior members of the school. At Dr. W. Ewart's suggestion a message of good cheer from those present at the dinner was sent out to an old student of the hospital, Dr. E. A. Wilson, who was a member of Captain Scott's expedition to the South Pole, and was now on his way home to England. The health of the chairman, proposed in a brief and characteristic speech by Mr. F. Jaffrey, was drunk with enthusiasm.

MIDDLESEX HOSPITAL.—The annual dinner of the past and present students of the Middlesex Hospital Medical School took place at the Trocadéro Restaurant on Oct. 1st. Dr. H. Campbell Thomson, the Dean, was in the chair, and nearly 200 were present. After the usual Royal toasts the chairman proposed "The Middlesex Hospital and Medical School." In the course of his remarks he drew attention to the principal events which had occurred during the year, referring more especially to the visit of H.M. the Queen to open the Barnato-Joel Memorial Wing, and to the honour of knighthood which had been bestowed on Sir John Bland-Sutton. He also stated that the school was in a very satisfactory condition and that the entry was the best for some years past. The toast was replied to by Mr. W. E. Gillett, chairman of the school council and member of the weekly board, on behalf of the hospital; Fleet-Surgeon R. Hill, C.V.O., on behalf of the past students; and Mr. F. L. Hardy, senior Broderip scholar, on behalf of the present students. The toast of "The Visitors" was proposed by Sir A. Pearce Gould, and responded to by Lieutenant-Colonel H. E. A. James. Sir John Bland-Sutton proposed the health of the chairman, which was drunk with musical honours. Amongst the guests present were Sir John McCall (Agent-General for Tasmania), Captain H.

Lockwood (Local Government Board), Mr. J. Boyton (M.P. for East Marylebone), and Mr. Sydney Spokes (Dean of the National Dental Hospital). A capital entertainment was given during the course of the evening.—The following entrance scholarships have been awarded: University scholarship, S. D. Kilner; first entrance scholarship, J. D. Dyson; second entrance scholarship, F. C. Mason; third entrance scholarship, E. H. Lake; Freer Lucas scholarship (Epsom College), W. B. Gabriel; and New Zealand scholarship, W. P. Johnston.

THE annual festival service of the Midland Counties Ward of the Guild of St. Luke is fixed for Tuesday, Oct. 22nd, at 4.45 P.M., in Christ Church Cathedral, Oxford, when the sermon will be delivered by Canon Scott Holland. All medical practitioners are cordially invited. Any information can be obtained from the honorary secretary, Dr. W. T. Elliott, 65, Temple-row, Birmingham.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, CITY-ROAD, E.C.: MEDICAL SCHOOL.—A three months' course on Pulmonary Tuberculosis will be delivered at this hospital during the next medical session. The inaugural lecture will be delivered by Professor Dr. Nietner, of Berlin, general secretary of the German Central Committee for the Prevention of Tuberculosis, on Thursday next, Oct. 17th, at 5 P.M., the subject being "The Modern Combat against Tuberculosis amongst Children." A special card of admission may be obtained for this lecture from the Dean of the hospital.

THE SAVILL PRIZE.—A prize in money, £5, and a silver medal will be awarded in July, 1913, and yearly, to that student (of either sex) at the West-End Hospital for Nervous Diseases who shall make the best *viva-voce* examination in diseases of the nervous system, in addition to writing a thesis on a subject approved by the examiners. All students (qualified or unqualified) who have attended at the hospital not less than 25 times are eligible. The necessary particulars as to attendances at clinics can be obtained from the secretary of the West-End Hospital for Nervous Diseases, 73, Welbeck-street, London, W. The Savill Fund still remains open in the hands of the trustees and a Triennial Savill Lecture is to be instituted.

CHARING CROSS HOSPITAL.—The session of the hospital was opened on Tuesday, Oct. 2nd, when Dr. William Hunter (the Dean) stated that important changes had taken place in the school during the past year in pursuance of the policy of employing the laboratories of King's College, London, for the preliminary medical studies. The needs of medical education in London, he considered, could only be met by concentration—the schools to utilise together the laboratories of the University for the purposes of various studies. The London schools continued to be responsible, in whole or in part, for the training of from 70 to 75 per cent. of the total number of students in England. The cost of medical education had trebled and was still rising, while the number of students entering the profession was steadily falling. There was little doubt, he considered, that this decrease, which he particularly regretted to have taken place at the Cambridge University Medical School, reflected the uncertainty and instability created in the medical profession by recent legislation. Lady Mary Glyn distributed the prizes gained during the past year by the students of the school. The Bishop of Peterborough, who presided, delivered a short address in which he congratulated all concerned in the welfare of the school with a record of prosperity. He then made a special reference to the value of a shooting club, which was now affiliated to the Students' Club Union, and concluded with the intimation that the National Insurance Act would have to be carefully thought out and amended.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Parliament and Medical Benefits.

PARLIAMENT has resumed its sittings after a holiday of two months. Acute political controversies are absorbing the attention of Members, but amongst the matters of importance on which ministerial announcements will be made at an early stage is one on the question of increased financial provision for medical benefits under the Insurance Act. Mr. LLOYD GEORGE last week stated his intention of submitting the subject to the consideration of his colleagues in the Cabinet, and of announcing their decision to the House of Commons in the course of next week. A rumour at Westminster states that the Cabinet has decided to increase the amount of the grant available for medical benefits by £1,000,000, and thereby to raise the capitation grant from 6*s.* to 7*s.* 6*d.* This statement is not sufficiently well authenticated to write of it with any assured degree of certainty, but it may be recorded as revealing the drift of Parliamentary anticipation. The authoritative declaration of the Cabinet's decision will in all probability come from the lips of the Chancellor of the Exchequer in the House of Commons.

HOUSE OF COMMONS.

MONDAY, OCT. 7TH.

The Expenses of the Sleeping Sickness Commission.

Sir J. D. REES asked the Secretary of State for the Colonies whether the whole expenses of the Sleeping Sickness Commission had been or would be debited to Nyasaland; and, if the answer were in the affirmative, whether he would consider the advisability of spreading the cost over other administrations which would share the benefits resulting from these researches.—Mr. L. HARCOURT replied: The answer to the first part of the honourable Member's question is in the affirmative. I see no sufficient ground for spreading the cost over other administrations which have incurred, and are incurring, expenditure in connexion with their own sleeping sickness problems.

Sir J. D. REES: Will not these researches be also beneficial to other administrations in Africa as well as Nyasaland?—Mr. L. HARCOURT: I hope that all the researches which are being carried out in different parts of Africa will be for the benefit of the whole.

Contributions under the Insurance Act.

Mr. CHARLES BATHURST asked the Secretary to the Treasury how many persons had now joined approved societies for the purposes of health insurance under the National Insurance Act; what proportion did these represent of the total number of employed contributors in the Kingdom; and how many of them were women.—Mr. MASTERMAN said in reply: I have no exact figures additional to those I gave before the recess, which estimated that about ten and a half million members had then joined approved societies. Further information would require a circular to about 20,000 approved societies and branches, but when the first quarter's cards are returned by the societies I shall hope to be able to give more exact numbers.

TUESDAY, OCT. 8TH.

The Milk Bill.

Mr. CHARLES BATHURST asked the President of the Local Government Board whether he proposed this session to introduce the Milk and Dairies Bill, and if so when.—Mr. BURNS answered: Other Government departments are concerned in the question involved, but I hope to introduce the Bill very shortly.

Mr. BATHURST: May I ask how the right honourable gentleman sees his way to press this Bill at this period of a very crowded session?—Mr. BURNS: The honourable gentleman should have considered that contingency before he pressed me to introduce the Bill.

WEDNESDAY, OCT. 9TH.

Sanatorium Benefit.

Mr. ROYDS asked the Secretary to the Treasury whether, under the provisions of the National Insurance Act, no sanatorium or other benefit was available for consumptives suffering from that disease at the date the Act came into operation; and whether such benefits were confined to persons actually employed at that date and attacked with the disease afterwards.—Mr. MASTERMAN answered: Any insured person is entitled to sanatorium benefit if the Insurance Committee recommends the case for such benefit, whether he was suffering from tuberculosis before or after the Act came into operation; but no person is entitled to become insured under the Act unless he is either employed within the meaning of Part I. of the Act or engaged in some regular occupation, and wholly or mainly dependent for his livelihood on the earnings derived by him from that occupation.

BOOKS, ETC., RECEIVED.

ALLEN, GEORGE, AND CO., LIMITED, Ruskin House, 44 and 45, Rathbone-place, London, W.

The Origin and Evolution of Primitive Man. Lecture given at the Royal Societies Club, St. James's-street, February, 1912. By Albert Churchward, M.D., M.R.C.P., F.G.S., &c., Author of "Origin and Antiquity of Freemasonry" and "Signs and Symbols of Primordial Man." Price 5*s.* net.

BHISHAGRATNA, K. L., KAVIRAJ, 10, Kasi Ghosh's-lane, Calcutta.

An English Translation of the Sushruta Samhita. Based on Original Sanskrit Text. Edited and published by Kaviraj Kunja Lal Bhishagratna. With a Full and Comprehensive Introduction, Translation of Different Readings, Notes, Comparative Views, Index, Glossary, and Plates. In Three Volumes. Vol. I.: Sutrasthanam. Price per volume Rs.15, or £1 net; also a popular edition at Rs.10 per volume. Whole set Rs.25, paid in advance.

CLIVE, W. B., UNIVERSITY TUTORIAL PRESS, LIMITED, High-street, New Oxford-street, London, W.C.

Science French Course. By C. W. Paget Moffatt, M.A. Lond., M.B., B.C. Camb., Author of "Science German Course." Price 3*s.* 6*d.*

CONSTABLE AND CO., LIMITED, London.

Chemical Theory and Calculations. An Elementary Text-book. By Forsyth James Wilson, D.Sc. Edin., Ph.D. Leipzig, and Isidor M. Heilbron, Ph.D. Leipzig, F.I.C., A.R.T.C., Lecturers in Chemistry, the Royal Technical College, Glasgow. Price 2*s.* 6*d.* net.

HAMMOND, W. A., The Brotherhood Publishing House, Holborn Hall, Clerkenwell-road, London, E.C.

Fifty Doctors Against Alcohol. A Call to National Defence. Issued under the auspices of the Literature Committee of the National Brotherhood Council. Price 2*s.* 6*d.*

METHUEN AND CO., LIMITED, 36, Essex-street, Strand, London, W.C.

British Plant-Galls. A Classified Text-book of Cecidology. By E. W. Swanton, Member of the British Mycological Society and of the Association of Economic Biologists; Curator of the Educational Museum, Haslemere; Author of "Fungi, and How to Know Them." With Introduction by Sir Jonathan Hutchinson, F.R.C.S., D.Sc., LL.D., F.R.S., and 16 Coloured Plates by Mary K. Spittal. Price 7s. 6d. net.

Modern Research in Organic Chemistry. By F. G. Pope, B.Sc. Lond., F.C.S. Price 7s. 6d.

A Second Year Course of Organic Chemistry for Technical Institutes. The Carbocyclic Compounds. By F. B. Thole, B.Sc. Lond., Fellow of the Chemical Society; Lecturer in Organic Chemistry at the East Ham Technical College. Price 2s. 6d.

ROYAL STATISTICAL SOCIETY, 9, Adelphi-terrace, Strand, London, W.C.

Infantile Mortality. Report of the Special Committee appointed by the Council of the Royal Statistical Society to enquire into the Systems adopted in different Countries for the Registration of Births (including Stillbirths) and Deaths with reference to Infantile Mortality. Price 1s.

SMITH, ELDER, AND CO., 15, Waterloo-place, London, S.W.

Dictionary of National Biography. Edited by Sir Sidney Lee. Second Supplement. Vol. II.: Faed-Muybridge. Price, in brown or blue cloth, 15s. net; or in half-morocco, 20s. net.

THACKER, SPINK, AND CO., Calcutta and Simla.

Mental Derangements in India, their Symptoms and Treatment. By A. W. Overbeck-Wright, M.B., Ch.B., Med. Psych. Cert., D.P.H., Captain, Indian Medical Service. Price 9s. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication*

ANKLESARIA, H. N., F.R.C.S. Edin., has been appointed Honorary Obstetrician and Gynæcologist to the Parsi General Hospital at Bombay.

CARVER, A. E., M.B., B.C. Cantab., &c., has been appointed Tuberculosis Officer to the Birmingham General Dispensary.

CLARK, HILDA, M.B., B.S. Lond., has been appointed Tuberculosis Officer to the County Borough of Portsmouth.

CUMBERBATCH, E. P., M.B., B.Ch. Oxon., M.R.C.P., has been appointed Medical Officer in Charge of the Electrical Department at St. Bartholomew's Hospital.

ELMSLIE, R. C., M.S. Lond., F.R.C.S. Eng., has been appointed Orthopædic Surgeon to St. Bartholomew's Hospital.

FENWICK, D. E., M.B., Ch.B., has been appointed House Physician at the Hampstead General and North-West London Hospital.

GODSON, ALFRED HENRY, M.B. Cantab., F.R.C.S. Eng., has been appointed Medical Referee under the Workmen's Compensation Act, 1906, for County Court Circuit No. 5, to be attached more particularly to Oldham County Court.

GREEN, EDWIN COLLIER, M.R.C.S., L.R.C.P. Lond., has been appointed Medical Referee under the Workmen's Compensation Act, 1906, for County Court Circuit No. 19, with a view to his being employed in ophthalmic cases arising in the Circuit.

HEY, W. H., F.R.C.S. Eng., has been appointed Honorary Surgeon to the Ancoats Hospital, Manchester.

HILL, ISABEL, M.B., Ch.B. Edin., has been appointed Medical Officer for Women and Children at the Workhouse Infirmary, Darlington.

IRWIN, S. T., M.B., M.Ch. Belf., F.R.C.S. Edin., has been appointed Assistant Surgeon to the Children's Department at the Ulster Hospital for Children and Women, and Assistant to the Professor of Surgery at the Queen's University, Belfast.

MCKERRON, ROBERT GORDON, M.D. Aberd., has been appointed Regius Professor of Midwifery in the University of Aberdeen.

TOWNROW, VINCENT, M.B., B.S. Lond., F.R.C.S. Eng., has been appointed Honorary Assistant Surgeon to the Sheffield Royal Hospital.

WALSHAM, HUGH, M.D. Cantab., has been appointed Medical Officer in Charge of the X Ray Department at St. Bartholomew's Hospital.

WILSON, J. B. FERGUSON, M.B., B.S. Lond., F.R.C.S. Eng., has been appointed Honorary Assistant Surgeon to the Sheffield Royal Hospital.

WILSON-SMITH, W. A., M.D. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Long Sutton District of the county of Lincoln.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BARNSLEY, BECKETT HOSPITAL AND DISPENSARY.—Second House Surgeon, unmarried. Salary £100 per annum, with apartments, board, and laundry.

BATH EYE INFIRMARY.—Honorary Surgeon.

BATH, ROYAL MINERAL WATER HOSPITAL.—Resident Medical Officer. Salary £100 per annum, with lodging, board, and washing.

BIRKENHEAD BOROUGH HOSPITAL. Senior House Surgeon and Junior House Surgeon. Salary £100 and £80 per annum respectively, with board and laundry.

BIRMINGHAM CORPORATION FEVER HOSPITAL.—Medical Superintendent. Salary £250 per annum, with board.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.—Two House Surgeons for six months. Salary £75 per annum, with board, residence, and laundry.

BOLTON INFIRMARY AND DISPENSARY.—Third House Surgeon. Salary £90 per annum, with apartments, board, and attendance.

BOURNEMOUTH, ROYAL VICTORIA AND WEST HANTS HOSPITAL.—House Surgeon for six months. Salary £80 per annum, with board, lodging, and laundry.

BRADFORD CHILDREN'S HOSPITAL.—House Surgeon. Salary £100 per annum.

BRADFORD, ROYAL EYE AND EAR HOSPITAL.—House Surgeon. Salary £200 per annum.

BRADFORD ROYAL INFIRMARY.—House Physician, unmarried. Salary £100 per annum, with board, residence, and washing.

BRIGHTON COUNTY BOROUGH EDUCATION COMMITTEE.—Junior School Doctor. Salary £250 per annum.

BRISTOL GENERAL HOSPITAL.—First Physician, Second House Physician, and Casualty House Surgeon, all for six months. Salary £80 per annum, with board, residence, &c.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—Junior Resident Officer. Salary £80 per annum, with board, rooms, and attendance.

BURTON-ON-TRENT INFIRMARY.—House Surgeon. Salary £120 per annum, with rooms, board, coal, and light.

CARDIFF CITY MENTAL HOSPITAL, Whitchurch, near Cardiff.—Second Assistant Medical Officer, unmarried. Salary £200 per annum.

CARDIFF UNION WORKHOUSE.—Assistant Medical Officer, unmarried. Salary £150 per annum, with rations, apartments, attendance, and washing.

COLCHESTER, ESSEX COUNTY HOSPITAL.—House Surgeon. Salary £80 per annum, with board, washing, and residence.

DENBIGH, DENBIGHSHIRE INFIRMARY.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

DEVONPORT, ROYAL ALBERT HOSPITAL.—House Surgeon, unmarried. Salary £50 first six months, £75 second six months, and at rate of £150 per annum during second year. Also Assistant House Surgeon, unmarried. Salary at rate of £50 per annum, with board and laundry.

DUDLEY, GUEST HOSPITAL.—Senior Resident Medical Officer. Salary £120 per annum, with board, residence, attendance, and washing. Also Assistant House Surgeon for six months. Salary £100 per annum, with residence, board, and washing.

ESSEX EDUCATION COMMITTEE.—School Medical Inspector. Salary £250 per annum.

GLASGOW UNIVERSITY.—Examinerships.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, London, N.—Resident Medical Officer. Salary £120 per annum, with board, lodging, and laundry.

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL.—House Surgeon. Salary £75 per annum, with board, residence, and laundry.

HASTINGS, EAST SUSSEX HOSPITAL.—Assistant House Surgeon. Salary at rate of £70 per annum, with residence, board, and washing.

HEREFORD COUNTY AND CITY ASYLUM.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and washing.

HONG-KONG UNIVERSITY.—Professor of Physiology. Salary not less than £600 per annum, with free bachelor quarters.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—House Physician for six months. Salary 30 guineas.

HOSPITAL FOR EPILEPSY AND PARALYSIS AND OTHER DISEASES OF THE NERVOUS SYSTEM, Maida Vale, W.—Resident Medical Officer for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—Assistant Casualty Medical Officer, unmarried, for six months. Salary £30, with board and residence.

HULL ROYAL INFIRMARY.—Assistant House Surgeon for six months. Salary at rate of £60 per annum, with board and lodging.

LEEDS GENERAL INFIRMARY.—Resident Medical Officer at Ida and Robert Arthington Hospitals. Salary £60 per annum, with board, residence, and laundry. Also Resident Obstetric Officer for six months. Salary £50 per annum, with board, residence, and laundry. Also Three House Surgeons, without salary, but with board, residence, and laundry Also Assistant Clinical Pathologist. Salary £150 per annum.

LEICESTER ROYAL INFIRMARY.—Second House Surgeon, Assistant House Surgeon, and Assistant House Physician, all for six months. Salary of former £120 and of two latter at rate of £80 per annum, with board, apartments, and washing.

LIVERPOOL, TOWNSHIP OF TOXTETH PARK WORKHOUSE AND INFIRMARY.—Assistant Resident Medical Officer. Salary £125 per annum, with board, washing, and apartments.

LONDON HOSPITAL, Whitechapel, E.—Obstetric Physician.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £80 per annum, with board and residence.

MAIDSTONE, KENT COUNTY ASYLUM.—Fourth Assistant Medical Officer, unmarried. Salary £200 per annum, with quarters, attendance, washing, &c.

MANCHESTER, MONSALL FEVER HOSPITAL.—Third Medical Assistant. Salary £100 per annum, with board, lodging, and washing

MANCHESTER ROYAL EYE HOSPITAL.—Junior House Surgeon. Salary £80 per annum, with residence, board, and washing.

MANCHESTER, ST. MARY'S HOSPITALS FOR WOMEN AND CHILDREN.—Two House Surgeons. Salary at rate of £50 per annum, with board and residence.

MANSFIELD AND MANSFIELD WOODHOUSE DISTRICT HOSPITAL.—Resident House Surgeon, unmarried. Salary £120 per annum, with board, residence, and washing.

MARGATE, ROYAL SEA BATHING HOSPITAL FOR SURGICAL TUBERCULOSIS.—Resident Surgeon. Salary at rate of £100 per annum for first six months and £120 for last six months, with board, residence, and laundry.

MERSTHAM, SURREY COUNTY ASYLUM, Netherne. Third Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and washing.

MIDDLESBROUGH, NORTH RIDING INFIRMARY.—Assistant House Surgeon. Salary £75 per annum, with board, residence, and washing.

NEW HOSPITAL FOR WOMEN, Euston-road.—Female Senior Assistant in Ophthalmic Department. Also Clinical Assistants.

NEWCASTLE-UPON-TYNE, ROYAL VICTORIA INFIRMARY.—Resident Medical Officer. Salary £200 per annum, with board and residence.
NORWICH, NORFOLK AND NORWICH HOSPITAL.—House Surgeon. Salary £80 per annum. Also Casualty Officer for six months. Salary £60 per annum. Each with board, lodging, and washing. Both unmarried.
NOTTINGHAM GENERAL HOSPITAL.—Assistant House Physician. Salary £100 per annum, with board, residence, and laundry.
OLDHAM ROYAL INFIRMARY.—Third House Surgeon for six months. Salary at rate of £80 per annum, with residence, board, and laundry.
PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—House Physician and House Surgeon for six months. Salary in each case at rate of £52 10s. per annum, with board and residence. Also Honorary Surgeon to Out-patients.
PARIS, HERTFORD BRITISH HOSPITAL.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, lodging, and laundry.
PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House Surgeon. Salary £100 per annum, with board, residence, and washing.
POPLAR (BOROUGH OF) DISPENSARY FOR THE PREVENTION OF CONSUMPTION, Alexandra House, 135, Bow-road, E.—Tuberculosis Officer. Salary £500 per annum.
POPLAR HOSPITAL FOR ACCIDENTS, Poplar, E.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board and residence.
PRESTWICH, COUNTY ASYLUM, Manchester.—Assistant Medical Officer, unmarried. Salary £150 per annum, increasing to £350, with board, apartments, and washing.
PRESTWICH UNION INFIRMARY, Charlestown-road, Blackley.—Second Assistant Medical Officer. Salary £100 per annum, with apartments, &c.
PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.—Senior House Physician. Salary £75 per annum. Senior House Surgeon. Salary £75 per annum. Junior House Physician. Salary £50 per annum. Junior House Surgeon. Salary £50 per annum. All for six months, with residence, board, and laundry.
ST. GEORGE'S HOSPITAL, S.W.—Assistant Surgeon.
ST. MARY'S HOSPITAL, London, W.—Junior Casualty House Surgeon for six months. Salary £100 per annum, with board and lodging.
SOUTHEND-ON-SEA, BOROUGH OF.—Assistant Medical Officer of Health and Assistant School Medical Officer. Salary £250 per annum.
STAFFORD, COTON HILL LUNATIC HOSPITAL.—Assistant Medical Officer, unmarried. Salary £160 per annum, with residence, board, and laundry.
STAMFORD HILL AND STOKE NEWINGTON DISPENSARY.—Assistant Resident Medical Officer. Salary £100 per annum, with board and apartments.
STOKE-ON-TRENT COUNTY BOROUGH EDUCATION COMMITTEE.—School Medical Inspector (female). Salary £250 per annum.
TOTTENHAM URBAN DISTRICT COUNCIL.—Medical Officer of Health and School Medical Officer. Salary £600 per annum.
TRURO, ROYAL CORNWALL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with rooms, board, and washing.
VENTNOR, ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST ON THE SEPARATE PRINCIPLE.—Assistant Resident Medical Officer, unmarried. Salary £100 per annum, with board, lodging, &c.
WEST LONDON HOSPITAL, Hammersmith-road, W.—Surgeon.
WINSLEY SANATORIUM FOR CONSUMPTIVES, Winsley, near Bath.—Resident Medical Officer, unmarried. Salary £300 per annum, with board and lodging.
WORCESTER COUNTY AND CITY ASYLUM, Powick.—Junior Assistant Medical Officer, unmarried. Salary £160 per annum, with board, apartments, washing, and attendance.
YORK, HOSPITAL FOR THE INSANE, Bootham Park.—Resident Medical Superintendent.

Births, Marriages, and Deaths.

BIRTHS.

CAMPBELL.—On Oct. 8th, at The Copse, Larbert, Stirlingshire, the wife of Robert B. Campbell, M.D., M.R.C.P., of a son.
FOTHERGILL.—On Oct. 2nd, at Hensol, Chorley Wood, Herts, the wife (*née* Gell) of Dr. Claud F. Fothergill, of a daughter.
GOODING.—On Oct. 3rd, at Ashton Lodge, South Norwood, Edith, the wife of Simonds Gooding, M.D., M.A. Cantab., of a son.

MARRIAGES.

MATTHEWS—TAPLIN.—On Sept. 28th, at St. Mary's, Wimbledon, Edgar William Matthews, M.B., to Dorothy, youngest daughter of Robert Taplin, of Wimbledon.
ROOKE—MOORE.—On Oct. 8th, at the Parish Church, Chipping Barnet, Alfred Basil Rooke, F.R.C.S., to Stella, youngest daughter of Mr. and Mrs. Edgar Richardson Moore, of Chipping Barnet.
WATKINS—COMBER.—On Oct. 3rd, at Shrewsbury, Bernard Vincent Watkins, M.B., &c., of Whitchurch, Salop, youngest son of the late John Webb Watkins, M.D., of Newton-le-Willows, to Maud Eleanor, elder daughter of Edward Comber, of Whitchurch.
WHITEFORD—KERR.—On Sept. 28th, at All Saints, Kensington Park, James Whiteford, M.D., to Helen Morrison Kerr, elder daughter of the late George Harper, Esq.

DEATHS.

BETTS.—On Oct. 6th, Edward George Betts, M.R.C.S., of Cavendish square, W.
CROWLEY.—On Oct. 5th, at "Lyndhurst," Thames Ditton, Deputy Surgeon General T. J. Crowley, R.N.
LOW.—On Oct. 8th, at his residence, Heath Bank, Blackheath-rise, S.E., after a few days' illness, Frank Harrison Low, M.B., aged 58 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE MEDICAL SOCIETY AND DR. LETTSOM.

FEW persons, even among those who know London fairly well, are aware that in Bolt-court off Fleet-street, midway between Fetter-lane and Farringdon-street, there still exists the house in which Dr. J. Coakley Lettsom lived and practised, and in which he settled the Medical Society of London in the year 1787. In Bolt-court, too, and contemporary with Lettsom, lived Samuel Johnson. His house was pulled down and on its site has been erected a school of photo-engraving and lithography by the County Council. In a recently published account of "Fleet Street in Seven Centuries" Mr. Walter G. Bell writes:—

> Nothing of note is left of Bolt Court save No. 3. This picturesque eighteenth-century building is quite unspoilt. It was the residence of Dr. John Coakley Lettsom, who in 1787 settled the Medical Society of London there. In 1790 he gave the house, which was his freehold, to the council; his other benefactions to the Society, of which he was a founder in 1773, and three times president, included funds and a library of books. The Society remained there until 1850, and one of the treasured possessions at their present premises in Chandos-street, Cavendish-square, is a painting by Medley of a meeting of the council in Bolt Court, at which Dr. Lettsom, a tall spare figure, is presenting the title deeds. The canvas contains twenty-two portraits of medical men.

It is interesting to recall that Medley was the maternal grandfather of the late Sir Henry Thompson, eminent alike as a painter and surgeon. Mr. Bell adds:—

> The Medical Society of London has enrolled in its ranks all the distinguished physicians in the capital for upwards of a century, and honours the memory of its most illustrious founder by the Lettsomian Lectures delivered in its theatre. It still owns the old house in Bolt Court. Over the entrance is the Society's emblematic tablet, placed there by Lettsom himself. A ribbon bears the name. The central figure, standing in front of a pyramid, is the Isis of Sais, the revealer of the secrets of Nature, who presided over medicine; having discovered the virtues of healing plants, she is said to have invented it. The Sphinx and the coiled serpent on either side of her represent Eternity. Within the circle beneath is an inscription in worn Greek capitals which translated reads: "I am whatever is, or has been, or will be, and no mortal has hitherto drawn aside my veil."

THE TREATMENT OF RINGWORM.

To the Editor of THE LANCET.

SIR,—Those of us who have spent a period of residence in a children's hospital like myself, and who have had to treat ringworm, must feel how vexatious and trying is this external parasitical complaint. Mr. H. Aldersmith, I suppose the greatest living expert on the subject, must have tried every known remedy, from acetic acid rubbed into the scalp down to the many other remedies that have been extolled and found wanting for the last three or more decades where especially the scalp has become generally affected. Dr. F. Taylor's work on Medicine recommends the remedy of X rays—"Sabouraud's pastilles." As each case wants to be treated on its own merits, may I, however, suggest a method of treating early isolated patches of ringworm. When I was learning children's diseases in a residential children's hospital I used to singe the partly shortened hair affected with lice. Of course, it was a radical cure, and especially fatal to "nits." But I extended the use of the "taper" to ringworm, and I found it very effective. Only too recently I have applied the barber's taper to the head of my gardener's child, who was becoming fractious after six weeks' absence from school. The result was quite satisfactory in three weeks. This sterilising method with an application of tincture of iodine should cure the majority of cases of ringworm in the early period. It is very simple and, not least, saving of time and money where the X rays are not to be had.

I am, Sir, yours faithfully,

Alton, Hants, Oct. 5th, 1912. JOHN FREDK. BRISCOE.

BECHUANALAND.

Mr. Barry May, Government Secretary, in a report on the Bechuanaland Protectorate for the year 1911-12, writes:—The year witnessed no event of any special interest or importance. The inadequacy of the rainfall, calamitous as it was, possessed this advantage—that it caused a marked decrease of malarial fever, which was very much less prevalent than in normal seasons. There was no epidemic of serious infectious or contagious disease, and the health of the people generally was, perhaps, better than usual. The Bechuanas are not, however, a race of much physical strength and vigour, and although they live in a climate which, except for the occurrence of malaria of

a mild type, is healthy and appears to be eminently suited to them and enjoy advantages in the way of ample space, sufficiency of food, and absence of anything approaching unhealthy or laborious toil, they have not increased in the way a more virile race would have done under similar conditions. I do not fancy that they are destined to occupy the position of an important factor in the native question of South Africa. During the year the Protectorate service suffered a severe loss in the death of Dr. W. A. Rutherford. He joined as a police surgeon in the year 1901, and a few years later, when the police force was reorganised, established himself in private practice in Mafeking, while continuing to fill the position of medical officer to this Administration for an annual allowance. He associated himself very closely with the Protectorate service, taking the warmest interest in the welfare of its members, for whose individual physical well-being he evidently accepted a personal responsibility which was based on friendship rather than on his strict obligation to the Administration.

A REPUTED CANCER "CURE."

To the Editor of THE LANCET.

SIR,—I am desirous of entering into correspondence with medical men who have cases of cancer under their care, with a view to submitting to them certain statements as to a reputed cancer "cure" which I think it worth while to try in order to establish its value or otherwise. This is a drug which has never been used in this country, but I have some evidence that it has been of real benefit in South Africa. The cases should be early ones, and may be of internal or external growth. No monetary consideration is asked or wished. *The preparation mentioned by me is not a proprietary or patent article.* I wish to test its value and record results, and my letter is only intended to ask practitioners to help me to collect cases.

I am, Sir, yours faithfully,

BERNARD F. HARTZHORNE, M.R.C.S. Eng., &c.

39, Loudoun-road, N.W., Sept. 27th, 1912.

A CURIOUS CARD.

A MEDICAL correspondent, with the pseudonym "Resenter," sends us a card which he has received by post. The legend on the front of the card (omitting the name and address) runs as follows:—

A—— B——,
M.N.L.P.E., I.I.P.D., M.B.C.P.E., A.M.C.S.S., M.I.H.

PHYSICAL CULTURE EXPERT AND MASSEUR.

THE CURATIVE INSTITUTE,
HIGH STREET, X——

On the back of the card is the information that school children's ailments and deformities are treated at the institute or in their own homes, and the schedule which follows includes spinal curvature, chorea, lordosis, weak heart, and paralysis. Consultations are free. Our correspondent is curious to know what the letters following the name mean, and so are we. He adds that he considers it an insult to send such trash to a medical man, and again we agree, though the insult to the medical man is as nothing to the injury which this kind of chicanery may do to the public. Unqualified practitioners often use strange groups of letters after their names in order to suggest to the ignorant that they possess recognised diplomas or degrees, but we have never seen such profusion before. After several attempts at interpretation (upside down, backwards, and through the looking-glass) we have failed to solve the mystery of these initials, and we pass them on to our readers as a seasonable evening game for the home circle.

RECURRENT HEADACHE.

To the Editor of THE LANCET.

SIR,—In answer to "Cantab.'s" query, I should strongly advise a complete fast—say, a short one of a fortnight, followed by my two-meals-a-day plan, and those meals practically purin-free. I venture to say the result would be striking. If the patient cannot be induced to undergo this, then I would suggest hypnosis.

I am, Sir, yours faithfully,

Oct. 8th, 1912. J. STENSON HOOKER.

SYDNEY WATER-SUPPLY AND SEWERAGE.

AMONG the capital cities of Greater Britain, Sydney stands high in regard to those essential accompaniments of civilised existence—a pure water-supply and effective sewage removal. Its population in 1911 was estimated at 696,185, and during the year a great development of building operations took place, no less than 5712 new premises having been connected with the public water-supply. The catchment area, of 354 square miles, affords an ample quantity of water for the needs of the city and suburbs. As before noted, some liability to contamination exists owing to the visits of tourists and excursionists to one or two places of picturesque interest within this area. About 400 people were noted as present at Christmas time, and again at the New Year, bringing with them, or leaving behind, various undesirable samples of organic matter, alimentary or excremental. The natural increase of rabbits in the area was kept under by rabbit shooters, who, however, themselves add somewhat to its contamination. The average composition of the water is chemically very satisfactory, chlorine averaging 2·90 (stated in parts per 100,000), nitrogen as free ammonia 0·0002, as albuminoid ammonia 0·0107, and oxygen absorbed 0·0985. These figures all show improvement on those for the previous year. We do not find any notice of bacteriological examination of the various sources of supply. The sewage disposal works were in fairly satisfactory operation on the whole, except at the Folly Point installation, where the filter beds appear to have reached the limit of their usefulness and a new artificial filter to be required. Trickling filters are being established for the North Sydney sewage. Observations on the relative purifying powers of this form as compared with those of filter beds under the climatic conditions of Sydney would be valuable.

LOW'S HANDBOOK TO THE CHARITIES OF LONDON.

CHEAPNESS and conciseness characterise "Low's Handbook to the Charities of London," which dates its first issue from 1836, and is now therefore in the seventy-seventh year of its publication (London: Charles H. Sell. Pp. 250. Price 1s.) Information with regard to the objects, date of formation, office, income, expenditure, invested funds, names of bankers and treasurers, and so forth, of over 1200 charities arranged in alphabetical order is given, while reference is facilitated by a classified table of contents. The preface this year deals with the problem of the waifs and strays of our great cities.

A SUGGESTION.

A WRITER in the *Caledonian Medical Journal* tells the story of an irate miner with whom he had a difference of opinion as to how much medical attendance should be bestowed for threepence a week. "There was only ae doctor I ever kent," quoth the miner, "that was a proper doctor. And he used to gang doon the rows ilka day crying 'Doctor, doctor,' just like the man wi' the milk-cairt. Ony body needin' him juist cried him in." The writer agreed that this was indeed a *rara avis in terris*, and bemoaned his rarity. "Ay," said his opponent sadly, "but ye see he had wrocht in the pit afore he took to doctrin." A hint for the Chancellor of the Exchequer, concludes the paragraph, whence to recruit a willing (and suitable) medical corps.

Perplexed.—What was called in our article "decorative surgery" requires, in our opinion, no specialism. It is a legitimate development either of the work of dermatology or of plastic surgery, and could well be represented both in the wards and in the out-patient departments of our hospitals. The best way in which a practitioner can become known to his colleagues, and indirectly to the public, as successfully specialising in any condition is to read a paper or papers, show cases at one of the medical societies, and learn from the criticism of them.

Scotland.—Our correspondent's letter is not suitable for publication. She should consult her medical attendant.

ERRATUM.—In the obituary notice of Dr. Walter Ball in THE LANCET of Sept. 28th, the date of his death should have been Sept. 13th, instead of August 13th.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

WE shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses. It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement. The following Congresses, Conferences, and Exhibitions are announced for October:—

May to October (London, Earl's Court).—Shakespeare's England.
Oct. 8th–22nd (Rome).—International Congress on the History of Art.
" 9th–12th (New York).—Electrical Exposition and Automobile Show.
" 10th–12th (Paris).—Sixteenth Session of the French Association of Urology.
" 10th–13th (Meran).—Seventh Austrian Congress of Balneologists.
" 13th–16th (Paris).—Thirteenth French Congress of Medicine.
" 17th–23rd (Paris).—First International Congress of Comparative Pathology.
" 24th–27th (Rome).—Fourth International Congress of Physical Education.
" 29th–Nov. 2nd (London, Royal Horticultural Hall).—Twenty-third Universal Cookery and Food Exhibition.

In 1913:—
(Easter week) (Berlin).—Fourth International Congress for Physiotherapy.
April 26th (Ghent) (opens).—International Exhibition.
Aug. 6th–12th.—(London).—Seventeenth International Congress of Medicine.
Sept. 2nd–6th (Groningen).—International Physiological Congress.
" 22nd–28th (Milan).—Fourteenth International Anti-alcoholic Congress.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

TUESDAY.

THERAPEUTICAL AND PHARMACOLOGICAL SECTION (Hon. Secretaries: H. H. Dale, W. Langdon Brown): at 4.30 P.M.

Introductory Address by the President, Professor W. E. Dixon, F.R.S.

PATHOLOGICAL SECTION (Hon. Secretaries—H. R. Dean, Gordon W. Goodhart): at 8.30 P.M.

Papers:

Mr. Rupert Farrant: Thyroid Action and Reaction.

Dr. A. E. Boycott: The Permeability of the Vessels in Experimental Nephritis.

Mr. S. G. Shattock: The Microscopic Structure of Urate Calculi.

THURSDAY.

DERMATOLOGICAL SECTION (Hon. Secretaries—Wilfrid Fox, J. M. H. MacLeod): at 5 P.M.

Cases:

Dr. Walsh: Two Cases Illustrating the Relation of Heart Disease to Skin Lesions.

Mr. McDonagh: (1) Case of Framboesioid Syphilide of the Palms; (2) A Phase of the Syphilitic Organism as seen in Sections.

FRIDAY.

OTOLOGICAL SECTION (Hon. Secretaries—H. J. Davis, G. J. Jenkins): at 5 P.M.

Dr. Dundas Grant: Presidential Address—Otological Discussions: Matter and Method.

Cases and Specimens:

Mr. R. Lake: (1) Aberrant Internal Carotid Arteries in a Woman; (2) Notes and Specimens of a Case of *Right* Cerebral Abscess with *Left* Otitis Media Suppurative.

Mr. Arthur Cheatle: Specimens of Both Temporal Bones from 120 Individuals, with lantern slides of Asymmetry.

Dr. Dan McKenzie: Case of Lateral Sinus Thrombosis with Serous Meningitis; Recovery.

Cases, &c., will be shown by Dr. W. Milligan, Mr. Macleod Yearsley, and others.

ELECTRO-THERAPEUTICAL SECTION (Hon. Secretaries—Cecil R. C. Lyster, G. Allpress Simmons): at 8.30 P.M.

Introductory Address by the President, Dr. R. Morton.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish square, W.

MONDAY.—8 P.M., General Meeting. 8.30 P.M., The In-coming President (Sir W. Watson Cheyne, Bart., C.B.): Introductory Address.—Paper:—Dr. F. J. Poynton and Mr. H. C. G. Pedler: A Case of Anæmia of the Pernicious Type with Acholuric Jaundice.

LONDON DERMATOLOGICAL SOCIETY, St. John's Hospital, 49, Leicester-square, W.C.

TUESDAY.—4.30 P.M., The President (Dr. M. Dockrell): Introductory Remarks.—Cases sent for Consultation.—Demonstration of Pathological Specimens.—Cases will be shown by Dr. Dockrell, Dr. Bunch, Dr. Sibley, Dr. Griffith, and other Fellows. 5.15 P.M., Dr. W. K. Sibley: Demonstration on Cases of the Application of the Etherial Solution of Carbonic Acid Snow.

CHELSEA CLINICAL SOCIETY, Club Rooms of the Medical School, St. George's Hospital, S.W.

TUESDAY.—8.30 P.M., The President (Dr. C. Boyd): Ionic Medication. (Opening Address.)

ROYAL MICROSCOPICAL SOCIETY, King's College, Strand, W.C.

WEDNESDAY.—8 P.M. to 11 P.M., Conversazione.

CHILD STUDY SOCIETY, LONDON, Royal Sanitary Institute, 90, Buckingham Palace-road, S.W.

THURSDAY.—7.30 P.M., Dr. T. P. Nunn: Psychological Development of the School Subjects.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos-street, Cavendish-square, W.

FRIDAY.—8.30 P.M., Report Resignation by Dr. W. Carnegie Brown of his Post as Joint Secretary of the Society, and move a Resolution thereon.—The President (Sir William Leishman): The Etiology of Blackwater Fever (followed by a Discussion).

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

FRIDAY.—5 P.M., Prof. Keith: Demonstration on Specimens Recently Added to the Collection of the College Museum—(1) Skeleton of a Boy who suffered from the Disease described by Mr. H. Gilford under the Name of Progeria; (2) Skeleton of a Child the Subject of Infantilism; and (3) Other Specimens of Surgical Interest exhibiting Defective Growth. (Museum Demonstration.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. J. L. Bunch: Clinique (Skin). 5.15 P.M., Lecture:—Dr. R. Jones: Epilepsy in Relation to Insanity.

TUESDAY.—4 P.M., Dr. H. Campbell: Clinique (Medical). 5.15 P.M., Lecture:—Dr. S. A. K. Wilson: The Pathogeny of Involuntary Movements.

WEDNESDAY.—4 P.M., Mr. P. Turner: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. J. D. Grant: Remarks on the Treatment of Aural Vertigo.

THURSDAY.—4 P.M., Mr. R. Russell: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. N. Pitt: On the Treatment of the Various Conditions which give rise to Œdema.

FRIDAY.—4 P.M., Mr. H. Barwell: Clinique (Ear, Nose, and Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 11 A.M., Mr. Addison: Demonstration of Minor Operations 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Opening Address:—Dr. S. Taylor: Medical Education—Then and Now.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Mr. T. Gray: Demonstration of Fractures, &c. 11.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin 5 P.M., Lecture:—Dr. Bernstein: Clinical Pathology.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations on the Throat, Nose, and Ear. 10.30 A.M., Medical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: Diseases of Women. 5 P.M., Lecture: Dr. Beddard: Practical Medicine.

THURSDAY.—Annual Meeting of Ladies' Association. (College closed.)

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Lecture:—Dr. Owen: Practical Medicine. 12.15 P.M., Lecture:—Dr. Bernstein: Clinical Pathology. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Abraham: Cases of Skin Disease.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—Out-patient Demonstrations:—10 A.M. Dr. G. Holmes: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.—2.15 P.M., Mr. W. Turner: Surgery. 3 P.M., Mr. W. Turner: Operations. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.15 P.M., Mr. R. Lake: Ear and Throat.

TUESDAY.—Out-patient Demonstrations:—10 A.M., Dr. C. Singer: Medical. Mr. A. J. Walton: Surgical. 12 noon, Dr. H. MacCormac: Skin.—2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Mr. R. Carling: Surgery. 3.15 P.M., Dr. G. Rankin: Medicine. 4.15 P.M., Sir M. Morris: Skin Clinique (alternate Tuesdays).

WEDNESDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. Langmead: Medical. Mr. P. Cole: Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.—2 P.M., Mr. L. V. Cargill or Mr. Choyce: Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.15 P.M., Mr. Cargill: Eye Clinique. 4.30 P.M., Mr. C. C. Choyce Surgery.

THURSDAY.—Out-patient Demonstrations:—10 A.M., Dr. G. Holmes: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.—2 P.M., Mr. R. Carling or Mr. W Turner: Operations. Dr. A. Davies: Pathological Demonstration. 3.15 P.M., Dr. R. Wells: Medicine.

FRIDAY.—Out-patient Demonstrations:—10 A.M., Dr. C. Singer: Medical. Mr. A. J. Walton: Surgical. 12 noon, Dr. H. MacCormac: Skin.—2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Sir John Rose Bradford; Medicine. 3.15 P.M., Mr. L. McGavin: Surgery.

SATURDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. Langmead: Medical. Mr. P. Cole: Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.—10 A.M., Dr. W. Steuart: Radiography.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture:—Dr. F. Batten: Diagnosis and Treatment of Acute Poliomyelitis.

FRIDAY.—3.30 P.M., Clinical Lecture:—Dr. A. Turner: Epilepsy.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.

WEDNESDAY.—4.30 P.M., Dr. Habershon: Demonstration of Cases.

LISTER INSTITUTE OF PREVENTIVE MEDICINE, Chelsea Gardens, Chelsea Bridge-road, S.W.

FRIDAY.—4 P.M., Lecture:—Dr. Bacot: Binomics of Fleas, Human, Rat, and Dog Species, with an Account of Laboratory Methods of Treatment and Rearing Fleas for Experimental Purposes.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.

THURSDAY.—5 P.M., Prof. Dr. Nietner of Berlin (General Secretary of the German Central Committee for the Prevention of Tuberculosis): The Modern Combat against Tuberculosis amongst Children. (Inaugural Lecture of a Three Months' Course on Pulmonary Tuberculosis.)

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.

TUESDAY.—6 P.M., Dr. W. K. Sibley: Seborrhœa and Psoriasis.

THURSDAY.—6 P.M., Dr. M. Dockrell: Erythema, its Varieties, Symptoms, and Treatment.

QUEEN'S HOSPITAL FOR CHILDREN, Board Room of the Hospital, Hackney-road, N.E.

MONDAY.—4 P.M., Demonstration of Cases:—Dr. E. A. Chisholm

THURSDAY.—Clinical Demonstration: Mr. J. H. Connolly: Ear, Nose, and Throat Cases.

ROYAL DENTAL HOSPITAL OF LONDON SCHOOL OF DENTAL SURGERY.

TUESDAY.—6 P.M., Mr. W. W. James: Lines of Demarcation between Retention and Extraction of Teeth in an Unclean Mouth.

ANCOATS HOSPITAL, Manchester.

THURSDAY.—4.15 P.M., Mr. J. Morley: Perforating Ulcers of the Stomach and Duodenum. (Post-Graduate Clinic.)

MANCHESTER ROYAL INFIRMARY.

TUESDAY.—4.30 P.M., Dr. H. S. Reynolds: Myasthenia Gravis, with Demonstration of a Case. (Post-Graduate Clinic.)

FRIDAY.—4.30 P.M., Mr. Thorburn: Surgical Cases. (Post-Graduate Clinic.)

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

TUESDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.), Royal National Orthopædic (9.30 A.M. and 4 P.M.).

WEDNESDAY (16th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (17th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal National Orthopædic (9 A.M. and 3.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M. Aural and Ophthalmic), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

FRIDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.) Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Royal National Orthopædic (3.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

SATURDAY (19th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic (2 P.M.) Hospitals operations are performed daily. At the Western Ophthalmic Hospital operations are performed on Monday, Tuesday, Thursday, and Friday at 3 P.M., and on Wednesday and Saturday at 11 A.M.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 9th, 1912.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Oct. 3	30·09	N.	0·02	89	51	39	39	41	Fine
,, 4	30·60	N.	...	85	53	39	40	41	Fine
,, 5	30·54	S.	...	83	56	38	39	39	Foggy
,, 6	30·34	S.W.	...	71	52	38	39	40	Hazy
,, 7	30·27	S.W.	...	80	59	38	41	42	Hazy
,, 8	30·28	S.E.	...	75	58	41	42	42	Foggy
,, 9	30·25	E.	...	78	58	42	45	45	Foggy

The following Journals, Magazines, &c., have been received.—La Policlinique, South African Medical Record, Canadian Journal of Medicine and Surgery, Bulletins et Mémoires de la Société de Radiologie Médicale de Paris, Pediatrics, Public Health, Quarterly Journal of Medicine, Dominion Medical Monthly, Archives of Internal Medicine, Edinburgh Medical Journal, Pharmaceutical Journal, Revue de Psychiatrie et de Psychologie Expérimentale, British Journal of Children's Diseases, Le Caducée, Archives of Pediatrics, Journal of State Medicine, Archives of the Roentgen Ray, Medica Review.

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